

FEDERAL FACILITY AGREEMENT UNDER CERCLA SECTION 120

BETWEEN THE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

AND THE

STATE OF CALIFORNIA

AND THE

UNITED STATES ARMY

DEPARTMENT OF THE ARMY
Sacramento Army Depot
8350 Fruitridge Road

Sacramento, CA 95813-5052

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
AND THE
STATE OF CALIFORNIA
AND THE
UNITED STATES ARMY

IN THE MATTER OF:)	
)	
SACRAMENTO ARMY DEPOT,)	FEDERAL FACILITY
)	AGREEMENT UNDER
THE UNITED STATES DEPARTMENT OF)	CERCLA SECTION 120
)	
THE ARMY)	
)	

Based on the information available to the Parties on the effective date of this FEDERAL FACILITY AGREEMENT (Agreement), and without trial or adjudication of any issues of fact or law, the Parties agree as follows:

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1 JURISDICTION

Each Party is entering into this Agreement pursuant to the following authorities:

(i) The U.S. Environmental Protection Agency (U.S. EPA), Region IX, enters into those portions of this Agreement that relate to the remedial investigation/feasibility study (RI/FS) pursuant to Section 120(e)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §9620(e)(1), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99-499 (hereinafter jointly referred to as CERCLA/SARA or CERCLA) and Sections 6001, 3008(h) and 3004(u) and (v) of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§6961, 6928(h), 6924(u) and (v), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA) (hereinafter jointly referred to as RCRA/HSWA or RCRA) and Executive Order 12580;

(ii) U.S. EPA, Region IX, enters into those portions of this Agreement that relate to interim remedial actions and final remedial actions pursuant to Section 120(e)(2) of CERCLA/SARA, Sections 6001, 3008(h) and 3004(u) and (v) of RCRA and Executive Order 12580;

(iii) Sacramento Army Depot (SAAD) enters into those portions of this Agreement that relate to the RI/FS pursuant to Section 120(e)(1) of CERCLA, Sections 6001, 3008(h) and 3004(u) and (v) of RCRA, Executive Order 12580, the National Environmental Policy Act, 42 U.S.C. §4321, and the Defense Environmental Restoration Program (DERP), 10 U.S.C. §2701 et seq.;

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(iv) SAAD enters into those portions of this Agreement that relate to interim remedial actions and final remedial actions pursuant to Section 120(e)(2) of CERCLA/SARA, Sections 6001, 3004(u) and 3008(h) of RCRA, Executive Order 12580 and the DERP.

(v) The California Department of Health Services (DHS) enters into this Agreement pursuant to Sections 120 and 121 of CERCLA/SARA and California Health and Safety Code Division 20, Chapters 6.5 and 6.8, §§ 102 and 25355.5(a)(1)(C).

2 STIPULATED DETERMINATIONS

For purposes of this Agreement, and as a basis therefore, The Army, the EPA and DHS have determined that:

2.1 The Sacramento Army Depot (SAAD) located at 8350 Fruitridge Road, Sacramento, California, 95813-5039, constitutes a facility within the meaning of 42 U.S.C. §9601(9).

2.2 SAAD is a federal facility within the meaning of 42 U.S.C. §9620 and is subject to all guidelines, rules, regulations, and criteria in the same manner and to the same extent as other facilities, as specified in 42 U.S.C. §9620(a).

2.3 There are areas within SAAD boundaries where hazardous substances have been deposited, stored, placed or otherwise come to be located in accordance with 42 U.S.C. §9601(14).

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2.4 There have been releases of hazardous substances, pollutants or contaminants into the environment within the meaning of 42 U.S.C.

§§9601(22), 9604, 9606 and 9607 and Health and Safety Code §25320 at SAAD.

2.5 With respect to those releases, the Army is an owner and/or operator subject to the provisions of 42 U.S.C. §9607 and Health and Safety Code §25323.5(a).

2.6 Pursuant to Health and Safety Code §25355.5(a)(1)(c), 42 U.S.C. §9604(b) and E.O. 12580, the Army is the agency responsible for implementing the RI/FS.

2.7 The actions to be taken pursuant to this Agreement are reasonable and necessary to protect the public health, welfare, or the environment.

2.8 DHS is the designated single state agency, in accordance with California Government Code §12018, responsible for the Federal programs to be carried out under this Agreement and the lead agency for the State of California.

3 APPLICABILITY OF AGREEMENT

3.1 This Agreement shall apply to and be binding upon the Army (and all subsequent owners, operators and lessees of SAAD), the EPA, the State of California through DHS and successors. All Parties will notify all other parties of the identity and assigned tasks of each

of its contractors performing work under this Agreement upon their selection. This Section shall not be construed as an agreement to indemnify any person. Each Signatory shall provide copies of this Agreement to its contractors who are performing any work called for by this Agreement. SAAD shall require compliance with this Agreement in any contracts it executes for work performed under this Agreement. Each Party shall be responsible for any noncompliance with this Agreement by their contractors.

3.2 No change in ownership of SAAD shall in any way alter the status or responsibility of the Parties under this Agreement. Should the Army transfer ownership of any or all of the property which constitutes SAAD, the notice and remedial action responsibilities under 42 U.S.C. §9620(h) shall apply. In addition, the Army shall include notice of this Agreement in any document transferring ownership or operation of SAAD to any subsequent owner and/or operator of any portion of SAAD and shall notify EPA and DHS of any such sale or transfer at least thirty (30) days prior to such sale or transfer.

4 DEFINITIONS

Except as noted below or otherwise explicitly stated, the definitions provided in CERCLA and SARA shall control the meaning of the terms used in this Agreement.

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In addition:

- a. "Administrator" shall refer to the Administrator of the Environmental Protection Agency.
- b. "Agreement" shall refer to this document and shall include all Attachments to this document.
- c. "ARARs" shall mean "legally applicable" or "relevant and appropriate" standards, requirements, criteria or limitation as those terms are used in CERCLA §121(d)(2).
- d. "Army" shall include the U.S. Department of Army, the SAAD, and their employees, agents, successors, and assigns.
- e. "Authorized Representative" may include any party's contractors.
- f. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. §9601, et seq.
- g. "Days" shall mean calendar days. Any submittal, that under the terms of this Agreement would be due on a Saturday, Sunday or holiday, shall be due on the following business day.
- h. "Department of Health Services" or "DHS" shall mean the California Department of Health Services, its employees and authorized representatives.
- i. "EPA" or "U.S. EPA" shall mean the United States Environmental Protection Agency, its employees and authorized representatives.
- j. "Feasibility Study" or "FS" means that study which fully evaluates and develops remedial action alternatives to prevent

or mitigate the migration or the release of hazardous substances, pollutants or contaminants at or from the Site.

- k. "Interim Remedial Action" or "IRA" shall mean all discrete response actions or operable units (OU), other than removal actions, implemented prior to a final remedial action (FRA) which are consistent with the FRA and which are taken to prevent or minimize the release or migration of hazardous substances, pollutants or contaminants to prevent endangerment of public health, and welfare or the environment. All interim remedial actions shall be undertaken in accordance with the NCP and the requirements of CERCLA/SARA.
- l. "National Contingency Plan" or "NCP" shall refer to the regulations contained in 40 C.F.R. §300.1 et seq.
- m. "Operations and maintenance" shall mean activities required to maintain the effectiveness of response actions.
- n. "Parties" shall mean the U.S. Department of the Army, the U.S. Environmental Protection Agency, and the State of California through DHS.
- o. "RCRA" shall mean the Resource Conservation and Recovery Act as codified at 42 U.S.C. §6901 et seq., as amended by the Hazardous and Solid Waste Amendments of 1984, Pub. L. 98-616.
- p. "RCRA permit" shall mean a treatment, storage or disposal permit issued pursuant to RCRA, incorporating the requirements of the Hazardous and Solid Waste Amendments of 1984 (P.L. 98-616).

- q. "Remedial Investigation" or "RI" means that investigation conducted to fully assess the nature and extent of the release of hazardous substances, pollutants or contaminants and to gather necessary data to support the feasibility study.
- r. "Timetables and deadlines" shall refer to the specific schedules for performance of described tasks and those tasks to be implemented pursuant to this Agreement. Timetables and deadlines may be contained in attachments to this Agreement as well as documents prepared pursuant to this Agreement.
- s. "SAAD" shall mean the Sacramento Army Depot, 8350 Fruitridge Road, Sacramento, California 95812-5039, located in Sacramento County.
- t. "Site" - For the purposes of this Agreement, the site is defined as SAAD and other locations affected by migration of hazardous substances, pollutants or contaminants from SAAD. The Parties may change the Site designation on the basis of additional investigations to more accurately reflect the areas of contamination related in whole or part to the SAAD.

5 PURPOSE

A. The general purposes of this Agreement are to:

- (1) ensure that the environmental impacts associated with past and present activities at the Site are thoroughly investigated

and appropriate remedial action taken as necessary to protect the public health, welfare and the environment;

(2) establish a procedural framework and schedule for developing, implementing and monitoring appropriate response actions at the Site in accordance with CERCLA/SARA, the NCP, Superfund guidance and policy, RCRA, RCRA guidance and policy; and,

(3) facilitate cooperation, exchange of information and participation of the Parties in such actions.

B. Specifically, the purposes of this Agreement are to:

(1) Identify Interim Remedial Action (IRA) alternatives which are appropriate at the Site prior to the implementation of final remedial action(s) for the Site. IRA alternatives shall be identified and proposed to the Parties as early as possible prior to formal proposal of IRAs to the Parties pursuant to CERCLA/SARA. This process is designed to promote cooperation among the Parties in identifying IRA alternatives prior to selection of final IRAs.

(2) Establish requirements for the performance of a RI to determine fully the nature and extent of the threat to the public health or welfare or the environment caused by the release and threatened release of hazardous substances, pollutants or contaminants at the Site and to establish requirements for the performance of a FS for the Site to identify, evaluate, and select alternatives for the appropriate remedial action(s) to prevent, mitigate, or abate the release or threatened release of hazardous substances, pollutants or contaminants at the Site in accordance with

CERCLA/SARA.

(3) Identify the nature, objective and schedule of response actions to be taken at the Site. Response actions at the Site shall attain that degree of cleanup of hazardous substances, pollutants or contaminants mandated by CERCLA/SARA.

(4) Implement the selected interim and final remedial action(s) in accordance with CERCLA and meet the requirements of Section 120(e)(2) of CERCLA for an interagency agreement among the Parties.

(5) Assure compliance, through this Agreement with RCRA and other federal and state laws and regulations for matters covered herein.

(6) Coordinate response actions at the Site with the mission and support activities at SAAD.

(7) Expedite the cleanup process to the extent consistent with protection of human health and the environment.

(8) Conduct operations and maintenance of remedial action selected and implemented pursuant to this Agreement.

6 DETERMINATION OF FACTS

For purposes of this Agreement, the following constitutes a summary of the facts upon which this Agreement is based. None of facts related herein shall be considered admissions by any Party.

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6.1 SAAD is located at 8350 Fruitridge Road, Sacramento, California, and occupies 485 acres between Fruitridge Road (north), Elder Creek Road (south), Florin Perkins Road (east), and the Southern Pacific Railway (west). New Morrison Creek runs along the [southern and southwestern] boundaries of the facility. A map of the site is attached hereto and marked Attachment 1.

6.2 In July, 1984, EPA scored the Site for possible inclusion on the National Priorities List. The Site received a score of 44.46. The Site was placed on the National Priorities List effective August 21, 1987 (52 Fed. Reg. 27620; July 22, 1987).

6.3 SAAD is currently used as an electronics and electro-optic repair facility. It also fulfills a supply function, including the receipt, storage, issue and maintenance of assigned commodities. In the past it has been used for a number of related purposes, as well as electro-plating and metal treatment. Operations associated with these activities have resulted in the generation, storage and disposal of hazardous substances at the facility.

6.4 Among the specific facilities which will be addressed by this Agreement are the following:

a. Electroplating wastewater leaching field west of building 320, which may have been used for disposal of plating shop wastes in the early 1950's;

b. Oxidation lagoons (four unlined units on the southwestern corner of SAAD), reportedly used for disposal of wastewaters from paint booths, photographic laboratories, boiler house and sanitary

treatment plant between 1950-72;

c. Burn pits (two pits, one partially lined, south of the oxidation lagoons), reportedly used for incineration of plating shop wastes, paint sludges, mercury batteries, and other solid waste from the 1960's to the 1970's;

d. Pesticide rinse area at Building T-356, reportedly used for pesticide mixing rinsewaters;

e. Tank no. 2, reportedly used as a liquid hazardous waste holding facility;

f. Fire-fighting training area at the intersection of Midway Avenue and the airstrip, where flammable substances (including JP4, waste oil, and solvents) were reportedly ignited in an unlined pit for firefighting training between 1958-63; and

g. A former well which may have been used for disposal of batteries from 1946-47.

6.5 Samples drawn from groundwater monitoring wells installed on and off-Depot have shown levels of hazardous substances greater than regulatory action levels.

6.6 SAAD is currently operating a hazardous waste storage facility, permitted by the DHS pursuant to interim authority on April 10, 1985. The permit expires on April 10, 1990.

7 SCOPE OF AGREEMENT

Under this Agreement, the U.S. Army agrees it shall:

- 7.1 Conduct IRAs as described in Section 8 and Attachment 2 to this Agreement;
- 7.2 Conduct a RI as described in Section 9 and Attachment 3 to this Agreement;
- 7.3 Conduct a FS of the Site as described in Section 10 and Attachment 3 to this Agreement; incorporating, at a minimum, the results of the RI for the site;
- 7.4 Provide for a review of alternative remedial actions and selection of remedial action(s) pursuant to this Agreement;
- 7.5 Implement those remedial actions selected for the Site as provided in Section 11 and Attachment 3 of this Agreement.
- 7.6 Conduct operations and maintenance to maintain the effectiveness of response actions at the Site.
- 7.7 Conduct all activities pursuant to this Agreement in accordance with all applicable guidelines, rules, regulations and criteria as specified in 42 U.S.C. §9620(a) and in accordance with the authorities delegated by the President in Executive Order 12580, 52 Federal Register 2923 (January 29, 1987).
- 7.8 Prepare a Health and Safety Plan and Community Relations Plan.

8 INTERIM REMEDIAL ACTION

8.0 This section shall apply to selection of interim remedial actions and any disputes relating thereto.

8.1 The Army shall submit its OU/FS (including the proposed interim remedial action alternatives) and its proposed interim remedial action plan to the EPA and DHS for review pursuant to Section 14 of this Agreement. The Army shall make the OU/FS and proposed interim remedial action plan available for public review and comment by publication in accordance with section 35 of this Agreement. At the close of the public comment period, the Army shall submit its draft Record of Decision and responsiveness summary to EPA and DHS as a draft ROD package. If necessary, any Party may commence a meeting of the Parties to assist in expediting selection of the interim remedial action.

8.2 Following review of all public comments and the ROD package, EPA and DHS shall either approve the ROD or select another alternative. A public comment period may be required in the event of a substantial difference between the preferred alternative and the OU/FS and proposed plan which were the subject of public notice and comment.

8.3 In the event the Parties cannot reach agreement on selection of the Interim Remedial Action, the EPA Administrator shall select the Interim Remedial Action. Any party may present a written statement of position regarding the selection of the remedy to the Administrator prior to the selection of remedy by the Administrator.

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The final selection of the Interim Remedial Action(s) by EPA shall be final and shall not be subject to dispute by any party except as provided in section 8.5 herein. The selection of the interim remedial action shall be contained in the Record of Decision.

8.4 Following approval of the ROD, the Army shall design, propose and submit a plan for implementation of the selected interim remedial action, including appropriate schedules for implementation, to EPA and DHS for review pursuant to Section 14. The purpose of the plan for remedial action is to establish procedures and timelines for the implementation of the selected interim remedial action. Following review by EPA and DHS, the Army shall implement the interim remedial action in a manner which is in accordance with the requirements and schedules set forth in CERCLA/SARA and the timetables and deadlines set forth or established in Section 16.

8.5 DHS reserves all rights to challenge the interim remedy in accordance with 42 U.S.C. §9621(f)(3).

9 REMEDIAL INVESTIGATION

The Army agrees it shall develop, implement and report upon a RI of the Site in accordance with the requirements of 42 U.S.C. §9601 et seq., the NCP, and the timetables and deadlines developed pursuant to Section 16 of this Agreement and set forth in Attachment 3 to this Agreement. The RI shall be subject to the review process set forth

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in Section 14 of this Agreement. The RI shall meet the purposes set forth in Section 5 of this Agreement. The parties agree that final Site cleanup level criteria will only be determined following completion of the Risk Assessment.

10 FEASIBILITY STUDY

The Army agrees it shall design, propose, undertake and report upon a FS for the Site which is in accordance with the requirements set forth in 42 U.S.C. §9601, et seq., the NCP, and the timetables and deadlines developed pursuant to Section 16 of this Agreement and set forth in Attachment 3 to this Agreement. The FS shall be subject to the review process set forth in Section 14. The FS shall meet the purposes set forth in Section 5 of this Agreement.

11 REMEDIAL ACTION SELECTION AND IMPLEMENTATION

11.0 This section shall apply to selection of remedial actions and any disputes relating thereto.

11.1 The Army shall submit its RI/FS (including the proposed remedial action alternatives) and its proposed remedial action plan to the EPA and DHS for review pursuant to Section 14 of this Agreement. The Army shall make the FS and proposed remedial action

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plan available for public review and comment by publication in accordance with section 35 of this Agreement. At the close of the public comment period, the Army shall submit its draft Record of Decision and responsiveness summary to EPA and DHS as a draft ROD package. If necessary, any Party may commence a meeting of the Parties to assist in expediting selection of the final remedial action.

11.2 Following review of all public comments and the ROD package, EPA and DHS shall either approve the ROD or select another alternative. A public comment period may be required in the event of a substantial difference between the preferred alternative and the FS and proposed plan which were the subject of public notice and comment.

11.3 In the event the Parties cannot reach agreement on selection of the Final Remedial Action, the EPA Administrator shall select the Final Remedial Action. Any party may present a written statement of position regarding the selection of final remedy to the Administrator prior to the selection of remedy by the Administrator. The final selection of the remedial action(s) by EPA shall be final and shall not be subject to dispute by any party except as provided in section 11.5 herein. The selection of the final remedial action shall be contained in the Record of Decision.

11.4 Following approval of the ROD, the Army shall design, propose and submit a plan for implementation of the selected remedial action, including appropriate schedules for implementation and operations and

maintenance, to EPA and DHS for review pursuant to section 14. The purpose of the plan for remedial action is to establish procedures and timelines for the implementation of the selected remedial action. Following review by EPA and DHS, the Army shall implement the remedial action in a manner which is in accordance with the requirements and schedules set forth in CERCLA/SARA and the timetables and deadlines set forth in Section 16 of this Agreement.

11.5 DHS reserves all rights to challenge the final remedy in accordance with 42 U.S.C. §9621(f)(3).

12 STATUTORY COMPLIANCE/RCRA-CERCLA INTEGRATION

A. The Parties intend to integrate the SAAD's CERCLA response obligations and RCRA corrective action obligations which relate to the release(s) of hazardous substances, hazardous wastes, pollutants or contaminants covered by this Agreement into this comprehensive Agreement. Therefore, the Parties intend that activities covered by this Agreement will be deemed to achieve compliance with CERCLA, 42 U.S.C. §9601 et seq.; to satisfy the corrective action requirements of Sections 3004(u) and (v) of RCRA, 42 U.S.C. §6924(u) and (v), for a RCRA permit, and Section 3008(h), 42 U.S.C. §6928(h), for interim status facilities; and to meet or exceed all applicable or relevant and appropriate Federal and State laws and regulations, to the extent required by Section 121 of CERCLA, 42 U.S.C. §9621.

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B. Based upon the foregoing, the Parties intend that any remedial action selected, implemented and completed under this Agreement shall be deemed by the Parties to be protective of human health and the environment such that remediation of releases covered by this Agreement shall obviate the need for further corrective action under RCRA (i.e., no further corrective action shall be required). The Parties agree that with respect to releases of hazardous waste covered by this Agreement, RCRA shall be considered an applicable or relevant and appropriate requirement pursuant to Section 121 of CERCLA.

C. The Parties recognize that the requirement to obtain permits for response actions undertaken pursuant to this Agreement shall be as provided for in CERCLA and the NCP. The Parties further recognize that on-going hazardous waste management activities at the SAAD may require the issuance of permits under Federal and State laws. This Agreement does not affect the requirements, if any, to obtain such permits. However, if a permit is issued to the SAAD for on-going hazardous waste management activities at the Site, the issuing party shall reference and incorporate any appropriate provisions, including appropriate schedules (and the provision for extension of such schedules), of this Agreement into such permit. The Parties intend that the judicial review of any permit conditions which reference this Agreement shall, to the extent authorized by law, only be reviewed under the provisions of CERCLA.

13 REMOVAL ACTIONS

A. Any Removal Actions conducted on the Site shall be conducted in a manner consistent with CERCLA, the NCP, and 10 U.S.C. §2705, including provisions for timely notice and consultation with respect to EPA and appropriate State and local officials.

B. Nothing in this Agreement shall alter SAAD's authority with respect to removal actions conducted pursuant to Section 104 of CERCLA, 42 U.S.C. §9604.

C. EPA and DHS reserve any authority they may have concerning removal actions conducted on the Site.

14 REVIEW OF SUBMITTALS

Review and Comment Process for Draft and Final Documents

A. Applicability:

The provisions of this Section establish the procedures that shall be used by the Parties to provide each other with appropriate notice, review, comment, and response to comments regarding RI/FS and RD/RA documents, specified herein as either primary or secondary documents. In accordance with Section 120 of CERCLA and 10 U.S.C. §2705, the SAAD will normally be responsible for issuing primary and secondary documents to the other Parties. As of the effective date of this Agreement, all draft and final reports for any deliverable

document identified herein shall be prepared, distributed and subject to dispute in accordance with Paragraphs B through J below.

The designation of a document as "draft" or "final" is solely for purposes of consultation among the Parties in accordance with this Part. Such designation does not affect the obligation of the Parties to issue documents, which may be referred to herein as "final", to the public for review and comment as appropriate and as required by law.

B. General Process for RI/FS and RD/RA documents:

1. Primary documents include those reports that are major, discrete portions of RI/FS or RD/RA activities. Primary documents are initially issued by SAAD in draft subject to review and comment by the other Parties. Following receipt of comments on a particular draft primary document, SAAD will respond to the comments received and issue a draft final primary document subject to dispute resolution. The draft final primary document will become the final primary document either 30 days after the period established for review of a draft final document if dispute resolution is not invoked or as modified by decision of the dispute resolution process.

2. Secondary documents include those reports that are discrete portions of the primary documents and are typically input or feeder documents. Secondary documents are issued by SAAD in draft subject to review and comment by the other Parties. Although SAAD will respond to comments received, the draft secondary documents may be finalized in the context of the corresponding primary documents. ^

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secondary document may be disputed at the time the corresponding draft final primary document is issued.

C. Primary Reports:

1. SAAD shall complete and transmit draft reports for the following primary documents to the other Parties for review and comment in accordance with the provisions of this Section:

1. RI/FS Work Plan, including Sampling Plan and Analysis Plan
2. QAPP
3. RI Report
4. Initial Screening of Alternatives
5. FS Report (including Risk Assessment)
6. Proposed Plans
7. Schedule for submittal of Remedial Design, Construction, Remedial Action Operations Plan, and for the commencement of remedial action
8. Records of Decision
9. Remedial Design (Preliminary Design)
10. Remedial Construction (Final Design)
11. Remedial Action Work Plan
12. Community Relations Plan

2. Only the draft final reports for the primary documents identified above shall be subject to dispute resolution. SAAD shall complete and transmit draft primary documents in accordance with the timetable and deadlines established in Section 16 of this Agreement.

D. Secondary Documents:

1. SAAD shall complete and transmit draft reports for secondary documents to the other Parties for review and comment in accordance with the provisions of this Section. The secondary documents include, but are not limited to the following:

1. Initial Remedial Action / Data Quality Objectives
2. RCRA Facility Assessment
3. Detailed Analysis of Alternatives
4. Post-screening Investigation Work Plan
5. Treatability Studies
6. Sampling and Data Results
7. Health and Safety Plan

2. Although EPA and DHS may comment on the draft reports for the secondary documents listed above, such documents shall not be subject to dispute resolution except as provided by Paragraph B hereof. Target dates shall be established for the completion and transmission of draft secondary reports pursuant to section 16.4 of this Agreement. The Project Managers may also identify additional secondary documents and will establish target dates for the completion and transmission of these secondary documents.

E. Meetings of the Project Managers on Development of Reports:

The Project Managers shall meet approximately every 30 days, except as otherwise agreed by the Parties, to review and

discuss the progress of work being performed at the site on the primary and secondary documents. Prior to preparing any draft document specified in Paragraphs C and D above, the Project Managers shall meet to discuss the document results in an effort to reach a common understanding, to the maximum extent practicable, with respect to the results to be presented in the draft document.

F. Identification and Determination of Potential ARARs:

1. For those primary reports or secondary documents that consist of or include ARAR determinations, prior to the issuance of a draft report, the Project Managers shall meet to identify and propose, to the best of their ability, all potential ARARs pertinent to the report being addressed. Draft ARAR determinations shall be prepared by SAAD, in coordination with DHS, in accordance with Section 121(d)(2) of CERCLA, the NCP and pertinent guidance issued by EPA, which is not inconsistent with CERCLA and the NCP.

2. In identifying potential ARARs, the Parties recognize that actual ARARs can be identified only on a site-specific basis and that ARARs depend on the specific hazardous substances, pollutants and contaminants at a site, the particular actions proposed as a remedy and the characteristics of a site. The Parties recognize that ARAR identification is necessarily an iterative process and that potential ARARs must be re-examined throughout the RI/FS process until a ROD is issued.

G. Review and Comment on Draft Reports:

1. SAAD shall complete and transmit each draft primary report to U.S. EPA and DHS on or before the corresponding deadline established for the issuance of the report. SAAD shall complete and transmit each draft secondary document in accordance with the target dates established for the issuance of such documents.

2. Unless the Parties mutually agree to another time period, all primary draft reports shall be subject to two 30-day periods for review and comment. Review of any document by the Parties may concern all aspects of the report (including completeness) and should include, but is not limited to, technical evaluation of any aspect of the document, and consistency with CERCLA, the NCP and any pertinent guidance or policy published by the U.S. EPA or DHS. Comments by the U.S. EPA and DHS shall be provided with adequate specificity so that SAAD may respond to the comment and, if appropriate, make changes to the draft report. Comments shall refer to any pertinent sources of authority or references upon which the comments are based, and, upon request of SAAD, the commenter shall provide a copy of the cited authority or reference. In cases involving complex or unusually lengthy reports, the Parties may extend the 30 day comment periods for an additional 20 days by written notice to SAAD prior to the end of the 30-day period for which the extension is necessary. Only one 20 day extension may be granted for any primary document. On or before the close of the comment period, EPA and DHS shall transmit by next day mail their written comments to the SAAD.

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3. Representatives of SAAD shall make themselves readily available to EPA and DHS during the comment period for purposes of informally responding to questions and comments on draft reports. Oral comments made during such discussions need not be the subject of a written response by SAAD on the close of the comment period.

4. In commenting on a draft report which contains a proposed ARAR determination, EPA and DHS shall include a reasoned statement of whether they object to any portion of the proposed ARAR determination. To the extent that EPA or DHS does object, it shall explain the bases for its objection in detail and shall identify any ARARs which it believes were not properly addressed in the proposed ARAR determination.

5. Following the close of the comment period for a draft report, SAAD shall give full consideration to all written comments on the draft report submitted during the comment period. Within 30 days of the close of the comment period on a draft secondary report, SAAD shall transmit to the other Parties its written response to comments received within the comment period. Within 30 days of the close of the initial comment period on a draft primary report, SAAD shall transmit to the other Parties a draft primary report, which shall include the SAAD's response to all written comments, received within the comment period. Within 30 days of the close of the second comment period on a draft primary report, SAAD shall transmit to the other Parties a draft final primary report, which shall include the SAAD's response to all written comments, received within the comment

period. While the resulting draft final report shall be the responsibility of the SAAD, it shall be the product of consensus to the maximum extent possible.

6. SAAD may extend the 30-day period for either responding to comments on a draft report or for issuing the draft final primary report for an additional 20 days by providing notice to the other Parties. In appropriate circumstances, this time period may be further extended in accordance with Section 33 (Extensions) hereof.

H. Availability of Dispute Resolution for Draft Final Primary Documents:

1. Dispute resolution shall be available to the Parties for draft final primary reports as set forth in Section 15.

2. When dispute resolution is invoked on a draft primary report, work may be stopped in accordance with the procedures set forth in Section 15 regarding dispute resolution.

I. Finalization of Reports:

The draft final primary document shall serve as the final primary document if no party invokes dispute resolution regarding the document or, if invoked, at completion of the dispute resolution process should SAAD's position be sustained. If SAAD's determination is not sustained in the dispute resolution process, SAAD shall prepare, within not more than 35 days, a revision of the draft final document which conforms to the results of dispute resolution. In appropriate circumstances, the time period for this revision period may be extended in accordance with Section 33 (Extensions) hereof.

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J. Subsequent Modifications of Final Reports

Following finalization of any primary report pursuant to Paragraph I above, the Parties may seek to modify the report, including seeking additional field work, pilot studies, computer modeling or other supporting technical work, only as provided in Paragraphs 1 and 2 below.

1. A Party may seek to modify a report after finalization if it determines, based on new information (i.e., information that became available, or conditions that became known, after the report was finalized) that the requested modification is necessary. The Party may seek such a modification by submitting a concise written request to the Project Manager of the other Parties. The request shall specify the nature of the requested modification and how the request is based on new information.

2. In the event that a consensus is not reached by the Project Managers on the need for a modification, the Parties may invoke dispute resolution to determine if such modification shall be conducted. Modification of a report shall be required only upon a showing that: (1) the requested modification is based on significant new information, and (2) the requested modification could be of significant assistance in evaluating impacts on the public health or the environment, in evaluating the selection of remedial alternatives, or in protecting human health and the environment.

3. Nothing in this Subsection shall alter the ability of EPA or DHS to request the performance of additional work which was not

contemplated by this Agreement. SAAD's obligation to perform such work must be established by either a modification of a report or document or by amendment to this Agreement.

15 RESOLUTION OF DISPUTES

Except as specifically set forth elsewhere in this Agreement, if a dispute arises after execution of this Agreement, the procedures of this Section shall apply.

All Parties may invoke the dispute resolution procedures. All Parties to this Agreement shall make reasonable efforts to informally resolve disputes at the Project Manager or immediate supervisor level. If resolution cannot be achieved informally, the procedures of this Section shall be implemented to resolve a dispute.

A. Within thirty (30) days after: (1) the period established for review of a draft final primary document pursuant to Section 14 (Review of Submittals) of this Agreement, or (2) any action which leads to or generates a dispute, the disputing Party shall submit to the DRC a written statement of dispute setting forth the nature of the dispute, the work affected by the dispute, the disputing Party's position with respect to the dispute and the technical, legal or factual information the disputing Party is relying upon to support its position.

B. Prior to any Party's issuance of a written statement of dispute, the disputing Party shall engage the other Parties in informal dispute resolution among the Project Managers and/or their immediate supervisors. During this informal dispute resolution period the Parties shall meet as many times as are necessary to discuss and attempt resolution of the dispute.

C. The DRC will serve as a forum for resolution of disputes for which agreement has not been reached through informal dispute resolution. The Parties shall each designate one individual and an alternate to serve on the DRC. The individuals designated to serve on the DRC shall be employed at the policy level or be delegated the authority to participate on the DRC for the purposes of dispute resolution under this Agreement. The EPA representative on the DRC is the Waste Management Division Director of U.S. EPA's Region IX. SAAD's designated member is the Commander, Sacramento Army Depot. DHS's designated member is the Chief of the Site Mitigation Unit, Region 1. Written notice of any delegation of authority from a Party's designated representative on the DRC shall be provided to all other Parties pursuant to the procedures of Section 20.

D. Following elevation of a dispute to the DRC, the DRC shall have twenty-one (21) days to unanimously resolve the dispute and issue a written decision. If the DRC is unable to unanimously resolve the dispute within this twenty-one (21) day period the written statement of dispute shall be forwarded to the Senior Executive Committee (SEC) for resolution, within seven (7) days after

the close of the twenty-one (21) day resolution period.

E. The SEC will serve as the forum for resolution of disputes for which agreement has not been reached by the DRC. The EPA representative on the SEC is the Regional Administrator of EPA's Region IX. SAAD's representative on the SEC is the DESOH, ASA(I&L). DHS's representative on the SEC is the Deputy Director of the Toxic Substances Control Division. The SEC members shall, as appropriate, confer, meet and exert their best efforts to resolve the dispute and issue a written decision. If unanimous resolution of the dispute is not reached within twenty-one (21) days, EPA's Regional Administrator shall issue a written position on the dispute. Any other Party may, within fourteen (14) days of the Regional Administrator's issuance of EPA's position, issue a written notice elevating the dispute to the Administrator of EPA for resolution in accordance with all applicable laws and procedures. In the event that the other Parties elect not to elevate the dispute to the Administrator within the designated fourteen (14) day escalation period, the other Parties shall be deemed to have agreed with the Regional Administrator's written position with respect to the dispute.

F. Upon escalation of a dispute to the Administrator of EPA pursuant to Subsection E, the Administrator will review and resolve the dispute within twenty-one (21) days. Upon request, and prior to resolving the dispute, the EPA Administrator shall meet and confer with the SAAD's Secretariat Representative, and the DHS's Deputy

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Director to discuss the issue(s) under dispute. Upon resolution, the Administrator shall provide SAAD with a written final decision setting forth resolution of the dispute. The duties of the Administrator set forth in this Section shall not be delegated.

G. The pendency of any dispute under this Section shall not affect SAAD's responsibility for timely performance of the work required by this Agreement, except that the time period for completion of work affected by such dispute shall be extended for a period of time usually not to exceed the actual time taken to resolve any good faith dispute in accordance with the procedures specified herein. All elements of the work required by this Agreement which are not affected by the dispute shall continue and be completed in accordance with the applicable schedule.

H. When dispute resolution is in progress, work affected by the dispute will immediately be discontinued if a DRC member requests, in writing, that work related to the dispute be stopped because, in its opinion, such work is inadequate or defective, and such inadequacy or defect is likely to yield an adverse effect on human health or the environment, or is likely to have a substantial adverse effect on the remedy selection or implementation process. To the extent possible, the DRC member requesting the work stoppage shall consult with the other DRC members prior to initiating a work stoppage request. After stoppage of work, if another DRC member believes that the work stoppage is inappropriate or may have potential significant adverse impacts, the DRC may meet to discuss the work stoppage.

Following this meeting, and further consideration of the issues, the DRC members (other than SAAD's member) will issue, in writing, a final decision with respect to the work stoppage. The final written decision of the DRC may immediately be subjected to formal dispute resolution. Such dispute may be brought directly to the SEC.

I. Within twenty-one (21) days of resolution of a dispute pursuant to the procedures specified in this Section, SAAD shall incorporate the resolution and final determination into the appropriate plan, schedule or procedures and proceed to implement this Agreement according to the amended plan, schedule or procedures.

J. Except as provided in section 31.3, resolution of a dispute pursuant to this Section of the Agreement constitutes a final resolution of any dispute arising under this Agreement. All Parties shall abide by all terms and conditions of any final resolution of dispute obtained pursuant to this Section of this Agreement.

16 DEADLINES

16.1 The following deadlines have been established, in conjunction with the State, for the submittal of draft primary documents pursuant to this Agreement:

16.2 Within twenty-one (21) days of the effective date of this Agreement, SAAD shall propose deadlines for completion of the

following draft primary documents:

- (a) RI/FS Work Plan, including Sampling and Analysis Plan
- (b) QAPP
- (c) RI Report
- (d) Initial Screening of Alternatives
- (e) FS Report (including Public Health Evaluation)
- (f) Proposed Plans
- (g) Records of Decision
- (h) Community Relations Plan

Within fifteen (15) days of receipt, EPA, in conjunction with the State, shall review and provide comments to SAAD regarding the proposed deadlines. Within fifteen (15) days following receipt of the comments SAAD shall, as appropriate, make revisions and reissue the proposal. The Parties shall meet as necessary to discuss and finalize the proposed deadlines. If the Parties agree on proposed deadlines, the finalized deadlines shall be incorporated into the appropriate Work Plans. If the Parties fail to agree within thirty (30) days on the proposed deadlines, the matter shall immediately be submitted to dispute resolution pursuant to section 15 of this Agreement. The final deadlines established pursuant to this paragraph shall be published by EPA, in conjunction with the State.

16.3 Within twenty-one (21) days of issuance of the Record of Decision, SAAD shall propose deadlines for completion of the following draft primary documents:

- (a) Remedial Designs
- (b) Remedial Construction
- (c) Remedial Action Work Plan

These deadlines shall be proposed, finalized and published utilizing the same procedures set forth in paragraph 16.2 above.

16.4 Target dates for the completion and transmission of draft secondary documents shall be established following the same procedures as set forth for primary documents.

16.5 The deadlines set forth in this section, or to be established as set forth in this section, may be extended pursuant to section 33 of this Agreement. The Parties recognize that one possible basis for extension of the deadlines for completion of the Remedial Investigation and Feasibility Study Reports is the identification of significant new Site conditions during the performance of the remedial investigation.

17 PERMITS

17.1 The Parties recognize that under 42 U.S.C. §9621(e)(1), no federal, state or local permit shall be required for the portion of any removal or remedial action conducted entirely onsite, where such action is selected and carried out in compliance with 42 U.S.C. §9621. However, SAAD must satisfy all the applicable federal, state or local standards, requirements, criteria, or limitations which

would have been included in any such permit.

When the Army proposes a response action to be conducted entirely on-site, which in the absence of 42 U.S.C. §9621(e)(1) would require a federal, state, or local permit, the Army, in consultation with EPA and DHS, shall include, in the appropriate submittal:

1. Identification of each permit, including applicable standards and requirements, which would otherwise be required;

2. Explanation of how the response action will meet the standards and requirements identified in subsection 17.1.1 above.

17.2 This section is not intended to relieve the Army from the requirements of obtaining a permit whenever it proposes a response action involving the movement of hazardous substances, pollutants or contaminants off-site.

17.3 The Army shall furnish the EPA and DHS with copies of all permits obtained in implementing this Agreement. Such copies shall be appended to the appropriate submittal or monthly progress report.

17.4 Nothing in this section shall affect or impair the obligation of the Army to comply with any applicable requirement of 42 U.S.C. §6901 et seq or the Hazardous Waste Control Law, Health and Safety Code 25100 et seq.

18 PROTECTION OF PUBLIC HEALTH AND THE ENVIRONMENT

All activities pursuant to this agreement will be conducted under the Health and Safety Plan and will be conducted so as to minimize the threat to the surrounding public. In the event the DHS or the EPA determines in its best professional judgment, that any activities conducted pursuant to this Agreement are creating a threat to the public health or welfare or the environment, the DHS or the EPA may request the Army to stop further implementation of all or part of this Agreement for such period of time as needed to abate the danger. In complying with any such requests, SAAD shall not be liable for failure to comply with other sections of this Agreement that may be caused by such compliance. EPA and DHS reserve any authority they may have to respond to threats to public health and the environment.

19 MONTHLY PROGRESS REPORT

The Army shall submit to the DHS and the EPA monthly written progress reports which describe the actions which the Army has taken during the previous month to implement the requirements of this Agreement. Progress reports shall also describe the activities scheduled to be taken during the month. Progress reports shall be submitted by the fifteenth (15) day of each month following the effective date of this Agreement. The progress reports shall include a detailed statement

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of the manner and extent to which the timetables and deadlines provided for pursuant to this Agreement are being met. In addition, the progress reports shall identify anticipated delays in meeting schedules, the reason(s) for the delay and actions taken to prevent future delays. The Project Managers may agree to make the progress reports quarterly rather than monthly, in which case progress reports for each quarter shall be submitted by the fifteenth (15) day of the month following the close of the calendar quarter.

20 DISTRIBUTION LIST

Unless otherwise specified, any report or submittal provided pursuant to a schedule identified in or developed under this Agreement shall be hand delivered or sent by certified mail, return receipt requested addressed as follows:

U.S. Environmental Protection Agency, Region IX
215 Fremont Street
San Francisco, CA 94105
Attention: T-4-6

State of California
Department of Health Services
4250 Power Inn Road
Sacramento, CA 95826
Attention: Senior Military Team

Sacramento Army Depot
8350 Fruitridge Road
Sacramento, CA 95813-5052
Attn: Environmental Manager

Any other correspondence may be sent by first class mail.

21 PROJECT MANAGERS

The Army, EPA, and DHS shall each designate a Project Manager and Alternate (hereinafter jointly referred to as Project Manager) for the purpose of overseeing the implementation of this Agreement. Within ten (10) days of the effective date of this Agreement, all Parties shall notify the other Parties, in writing, of the name and address of its Project Manager. Any Party may change its Project Manager by notifying the other Parties, in writing, within five days of the change. To the maximum extent possible, communications between the Parties concerning the terms and conditions of this Agreement shall be directed through the Project Managers as set forth in section 20 of this Agreement. Each Project Manager shall be responsible for assuring that all communications from the other Project Managers are appropriately disseminated and processed by the entities which the Project Managers represent. The absence of the EPA, DHS, or SAAD Project Manager from the Site shall not be cause for work stoppage.

22 SAMPLING AND DATA/DOCUMENT AVAILABILITY

The Parties shall make available to each other quality assured results of sampling, testing or other data generated by any Party, or on their behalf, with respect to the implementation of this Agreement

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within sixty (60) days of their collection or performance. If quality assurance will not be completed within the sixty (60) day time frame, raw data or results shall be submitted within sixty (60) days and quality assured data or results shall be submitted as soon as they become available.

Any party may request, and the party taking the sample shall allow split or duplicate samples to be taken during sample collection conducted during the implementation of this Agreement. The Project Managers collecting the sample shall endeavor to notify each other not less than five (5) days in advance of any sample collection. At this time, the Parties shall make known their request to be present or to collect split or duplicate samples. If it is not possible to provide five (5) days prior notification, the Parties shall notify each other as soon as possible after becoming aware that samples will be collected.

23 QUALITY ASSURANCE

23.1 Field work

The Army shall prepare the quality assurance project plan in accordance with U.S. EPA Document QAMS-005/80 and other applicable guidance furnished by EPA.

23.2 Laboratory work

The Army agrees to use, at a minimum, laboratory methods and procedures which are functionally equivalent to the methods and procedures used in the EPA contract laboratory program and, where there is no conflict in field or laboratory procedures and methodologies, the DHS certified laboratory program.

23.3 Documentation

The Army shall document compliance with all EPA and state approved field and laboratory procedures and methodologies, including but not limited to element-specific sampling methodologies, chain of custody procedures, sample storage and shipping methods, calibration procedures and frequencies, and other laboratory quality control and quality assurance procedures.

24 RETENTION OF RECORDS

Each Party to this Agreement shall preserve for a minimum of ten (10) years after termination of this Agreement all of its records and those documents which relate to: 1) the implementation of this Agreement at the Site and; 2) the implementation of the IRP at SAAD, despite any record retention policy to the contrary. After this ten (10) year period, the Army shall notify EPA and DHS at least forty-five (45) days prior to the destruction or disposal of any such documents or records. Upon request by the EPA and DHS, the Army

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shall make available such records or documents to EPA and DHS subject to Section 29.

25 ACCESS

- 25.1 The Parties to this Agreement and their duly authorized representatives may enter the site for the following purposes: (1) inspecting records relevant to the implementation of this Agreement; (2) reviewing the progress of the remedial investigation; (3) conducting relevant sampling procedures; (4) verifying data submitted pursuant to the remedial investigation; and (5) exercising any other right or responsibility assigned the party pursuant to this Agreement.
- 25.2 The Parties shall contact SAAD's Project Manager at least forty-eight (48) hours in advance of all routine site visits to coordinate access. At this time, the Party seeking access shall coordinate with the Army the date and time for the Site visit, the purpose of such visit, and the areas to which access is sought; and shall assure that the Army is provided the appropriate credentials for the individual(s) who are to visit the Site. Submittal of this information will enable SAAD's Project Manager to accommodate all reasonable requests for such access. Entry to SAAD shall then be granted upon verification of proper credentials. Such access shall be granted in

accordance with Army security regulations and shall not interfere with military operations at SAAD or National Security considerations. EPA and DHS shall not use any camera, sound recording or other electronic recording device at SAAD without the permission of the SAAD Project Manager. SAAD shall not unreasonably withhold such permission.

- 25.3 If a party obtains any samples, before leaving the site, the party shall give SAAD's Project Manager a receipt describing the sample obtained, and, if requested, a portion of each such sample. A copy of the results of any analysis made of such samples shall be provided to all parties in accordance with section 22.
- 25.4 With respect to non-Army property upon which monitoring wells, pumping wells, or other response actions are to be located, the access agreements shall also provide that no conveyance of title, easement, or other interest in the property shall be consummated for the duration of the access agreement without provisions for the continued right of entry.
- 25.5 To the extent that the Army needs access to off-Depot property to carry out the work required by this Agreement, the Army shall use its best efforts to obtain all necessary access agreements from the owners or lessees of such lands. Any such access agreements shall provide for reasonable access to EPA and DHS. In the event that the Army is unable to obtain necessary access

to off-Depot property, and EPA and DHS agree such access is necessary EPA and DHS agree to use their best efforts to obtain the needed access.

25.6 Nothing in this Section shall be construed to limit EPA's and DHS's full right of access as provided in 42 U.S.C. §9604(e), and Health and Safety Code §25185 except as that right may be limited by 42 U.S.C. §9620(j)(2), necessary National Security regulations, and E.O. 12580.

26 FIVE YEAR REVIEW

Consistent with 42 U.S.C. §9621(c) and in accordance with this Agreement, if the selected remedial action results in any hazardous substances, pollutants or contaminants remaining at the site, the Parties shall review the remedial action program at least every five (5) years after the initiation of the final remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

If upon such review it is the conclusion of any of the parties that additional action or modification of remedial action is appropriate at the site in accordance with 42 U.S.C. §§9604 or 9606, the Army shall implement such additional or modified action as agreed upon by all parties.

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Any dispute by the Parties regarding need for or the scope of additional action or modification to a remedial action shall be resolved under Section 15 of this Agreement.

Any additional action or modification agreed upon pursuant to this section shall be made a part of this Agreement.

27 OTHER CLAIMS

Nothing in this Agreement shall constitute or be construed as a bar or release from any claim, cause of action or demand in law or equity by or against any person, firm, partnership or corporation not a signatory to this Agreement for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, hazardous waste, pollutants, or contaminants found at, taken to, or taken from SAAD.

Unless specifically agreed to in writing by the Parties, EPA and DHS shall not be held as a party to any contract entered into by the Army to implement the requirements of this Agreement.

The Agreement shall not restrict EPA, DHS or SAAD from taking any legal, equitable, or administrative action for any matter not subject to this Agreement.

28 OTHER APPLICABLE LAWS

All actions required pursuant to this Agreement shall be accomplished consistent with applicable state and federal laws and regulations to the extent required by 42 U.S.C. §9601 et seq.

29 RELEASE OF RECORDS

The Parties may request of one another access to or a copy of any record or document. If the Party that is the subject of the request (the originating Party) has the record or document, that party shall provide access to or a copy of the record or document; provided, however, that no access to or copies of records or documents need be provided if they are subject to claims of attorney-client privilege, attorney work product, or properly classified for national security under law or executive order. Records or documents identified by the originating Party as confidential pursuant to other non-disclosure provisions of the Freedom of Information Act, 5 U.S.C. §552, or the California Public Records Act, Chapter 3.5 of the California Government Code, shall be released to the requesting Party, provided the requesting Party states in writing that it will not release the record or document to the public without prior approval of the originating Party. Records or documents which are provided to the requesting Party and which are not further identified

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as confidential may be made available to the public without further notice to the originating Party.

The Parties will not assert one of the above exemptions, including any available under the Freedom of information Act or the California Public Records Act, even if available, if no governmental interest would be jeopardized by access or release. Any documents required to be provided by Section 14, and analytical data showing testing results will always be releasable and no exemption shall be asserted by any Party. This Section does not change any requirement regarding press releases in Section 35, Public Participation. A determination not to release a document for one of the reasons specified above shall not be subject to Section 15, Resolution of Disputes. Any Party objecting to another Party's determination may pursue the objection through the determining Party's appeal procedures.

30 AMENDMENT OF AGREEMENT

This Agreement may be amended upon written agreement by all parties to this document.

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31 COVENANT NOT TO SUE AND RESERVATION OF RIGHTS

A. In consideration for the Army's compliance with this Agreement, and based on the information known to the parties on the effective date of this Agreement, EPA, the Army, and DHS agree that compliance with this Agreement shall stand in lieu of any administrative, legal and equitable remedies against the Army available to them regarding the currently known releases or threatened releases of hazardous substances including hazardous wastes, pollutants or contaminants at the site which are within the scope of this Agreement, which are the subject of the RI/FS(s) to be conducted pursuant to this Agreement and which will be adequately addressed by the remedial action(s) provided for under this Agreement; except that nothing in this Agreement shall preclude EPA or DHS from exercising any administrative, legal, or equitable remedies available to them to require additional response actions by the Army in the event that: (1)(a) conditions previously unknown or undetected by EPA or DHS arise or are discovered at the Site, or (b) EPA or DHS receive additional information not previously available concerning the premises which they employed in reaching this Agreement; and (2) the implementation of the requirements of this Agreement are no longer protective of public health and the environment. To the extent deemed appropriate by EPA or DHS, after consultation with the Army, such additional response actions shall be implemented through the amendment process described in Section 30 of

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this Agreement.

B. Notwithstanding this Section, or any other Section of this Agreement, DHS shall retain any statutory right it may have absent this Agreement to obtain judicial review of any final decision of the EPA on selection of a remedial action pursuant to any authority DHS may have under CERCLA, including §§ 121(e)(2), and 121(f), 310 and 113.

32 STIPULATED PENALTIES

A. In the event that SAAD fails to submit a primary document (i.e., Scope of Work, RI/FS Work Plan, Risk Assessment, RI Report, Initial Screening of Alternatives, FS Report, Proposed Plan, Record of Decision, Remedial Design, Remedial Action Work Plan) to the other Parties pursuant to the appropriate timetable or deadline in accordance with the requirements of this Agreement, or fails to comply with a term or condition of this Agreement which relates to an interim or final remedial action, EPA, after consultation with DHS, may assess a stipulated penalty against SAAD. DHS may also recommend that a stipulated penalty be assessed. A stipulated penalty may be assessed in an amount not to exceed \$5,000 for the first week (or part thereof), and \$10,000 for each additional week (or part thereof) for which a failure set forth in this Paragraph occurs.

B. Upon determining that SAAD has failed in a manner set forth in Paragraph A, EPA shall so notify SAAD in writing. If the failure in question is not already subject to dispute resolution at the time such notice is received, SAAD shall have fifteen (15) days after receipt of the notice to invoke dispute resolution on the question of whether the failure did in fact occur. SAAD shall not be liable for the stipulated penalty assessed by EPA or DHS if the failure is determined, through the dispute resolution process, not to have occurred. No assessment of a stipulated penalty shall be final until the conclusion of dispute resolution procedures related to the assessment of the stipulated penalty.

C. The annual reports required by Section 120(e)(5) of CERCLA shall include, with respect to each final assessment of a stipulated penalty against SAAD under this Agreement, each of the following:

1. The facility responsible for the failure;
2. A statement of the facts and circumstances giving rise to the failure;
3. A statement of any administrative or other corrective action taken at the relevant facility, or a statement of why such measures were determined to be inappropriate;
4. A statement of any additional action taken by or at the facility to prevent recurrence of the same type of failure; and
5. The total dollar amount of the stipulated penalty

assessed for the particular failure.

D. Stipulated penalties assessed pursuant to this Section shall be payable to the Hazardous Substances Response Trust Fund only in the manner and to the extent expressly provided for in Acts authorizing funds for, and appropriations to, the DOD.

E. In no event shall this Section give rise to a stipulated penalty in excess of the amount set forth in Section 109 of CERCLA.

F. This Section shall not affect SAAD's ability to obtain an extension of a timetable, deadline or schedule pursuant to Section 33 of this Agreement.

G. Nothing in this Agreement shall be construed to render any officer or employee of SAAD personally liable for the payment of any stipulated penalty assessed pursuant to this Section.

33 EXTENSIONS

A. Either a timetable and deadline or a schedule shall be extended upon receipt of a timely request for extension and when good cause exists for the requested extension. Any request for extension by SAAD shall be submitted in writing and shall specify:

1. The timetable and deadline or the schedule that is sought to be extended;
2. The length of the extension sought;
3. The good cause(s) for the extension; and

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4. Any related timetable and deadline or schedule that would be affected if the extension were granted.

B. Good cause exists for an extension when sought in regard to:

1. An event of force majeure;
2. A delay caused by another party's failure to meet any requirement of this agreement;
3. A delay caused by the good faith invocation of dispute resolution or the initiation of judicial action;
4. A delay caused, or which is likely to be caused, by the grant of an extension in regard to another timetable and deadline or schedule; and
5. Any other event or series of events mutually agreed to by the Parties as constituting good cause.

C. Absent agreement of the Parties with respect to the existence of good cause, any party may seek and obtain a determination through the dispute resolution process whether good cause exists.

D. Within seven days of receipt of a request for an extension of a timetable and deadline or a schedule, the other Parties shall advise the disputing party in writing of its respective position on the request. Any failure by any other Party to respond within the 7-day period shall be deemed to constitute concurrence in the request for extension. If any other Party does not concur in the requested

extension, it shall include in its statement of nonconcurrence an explanation of the basis for its position.

E. If there is consensus among the Parties that the requested extension is warranted, SAAD shall extend the affected timetable and deadline or schedule accordingly. If there is no consensus among the Parties as to whether all or part of the requested extension is warranted, the timetable and deadline or schedule shall not be extended except in accordance with determination resulting from the dispute resolution process.

F. Within seven days of receipt of a statement of nonconcurrence with the requested extension, the disputing party may invoke dispute resolution.

G. A timely and good faith request for an extension shall toll any assessment of stipulated penalties or application for judicial enforcement of the affected timetable and deadline or schedule until a decision is reached on whether the requested extension will be approved. If dispute resolution is invoked and the requested extension is denied, stipulated penalties may be assessed and may accrue from the date of the original timetable, deadline or schedule. Following the grant of an extension, an assessment of stipulated penalties or an application for judicial enforcement may be sought only to compel compliance with the timetable and deadline or schedule as most recently extended.

34 TRANSFER OF REAL PROPERTY

The Army shall not transfer any real property comprising the Site except in compliance with Section 120(h) of CERCLA. The Army shall comply with the provisions of Health and Safety Code §25359.7. At least 30 days prior to any conveyance, the Army shall notify all parties to this Agreement of the transfer of all real property subject to this Agreement and the provisions made for any additional remedial action measures, if required.

35 PUBLIC PARTICIPATION AND COMMENT

- 35.1 The Parties agree that proposed remedial action alternative(s) and plan(s) for remedial action at the Site shall comply with the administrative record and public participation requirements of 42 U.S.C. §§9613(k), 9617(a), (b), (c) and (d), and California Health and Safety Code §§25356.1(d) and 25358.7 and regulations promulgated thereunder.
- 35.2 The Army shall develop and implement a Community Relations Plan (CRP) which responds to the need for an interactive relationship with all interested community elements regarding activities and elements of work undertaken by the Army as specified under this Agreement. The Army agrees to develop and implement the CRP in a manner consistent with 42 U.S.C. §§9617(a), (b), (c) and (d) ,

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regulations promulgated thereunder, and relevant EPA and DHS guidance.

- 35.3 Any Party issuing a formal press release to the media regarding any of the work contemplated under this Agreement shall advise the other Parties of such press release and the contents thereof, at least forty-eight (48) hours prior to the issuance of such press release and of any subsequent changes prior to release.
- 35.4 The Army agrees it shall establish and maintain two administrative records in accordance with 42 U.S.C. §9613(k) and the NCP. One copy shall be maintained at SAAD and one copy shall be maintained at a location near SAAD convenient to the public. The administrative record shall be established and maintained in accordance with EPA policy and guidelines. A copy of each document placed in the administrative record will be provided to the EPA and DHS. The administrative record and index developed by the Army shall be updated on a quarterly basis. Updates will be supplied to EPA and DHS. An index of documents in the administrative record will accompany each update of the administrative record.

36 PUBLIC COMMENT

- 36.1 This Agreement shall be subject to public comment as follows:

follows:

(a) Within 15 days of the execution of this Agreement, the SAAD shall publish notice in at least one major local newspaper of general circulation that this Agreement is available for a 45-day period of public review and comment.

(b) Promptly upon completion of the public comment period, the SAAD shall transmit to the other Parties copies of all comments received within the comment period.

(c) The Parties shall review the comments and shall either:

1. Determine that this Agreement should be made effective in its present form, in which case EPA shall notify all Parties in writing and this Agreement shall become effective on the date that the Army receives such notification; or

2. Determine that modification of this Agreement is necessary, in which case the Parties shall meet to discuss and agree upon any proposed changes. Upon agreement of any proposed changes, EPA shall notify all Parties in writing and this Agreement shall become effective on the date that the Army receives such notification.

In the event a Party determines that it is necessary to modify this Agreement as a result of public comment received, and there is disagreement among the Parties as to the need for such modification, any Party may submit the disagreement to Dispute Resolution provided for in Section 15.

37 ACTIONS AGAINST OTHER PERSONS

EPA and DHS agree that if an additional potentially responsible party is identified subsequent to the date of this Agreement, the EPA and DHS do not waive any enforcement options with respect to that other potentially responsible party by entering into this Agreement. Nothing in this Agreement shall interfere with the ability of the EPA and/or DHS from entering into an Agreement with another potentially responsible party pursuant to 42 U.S.C. §9622(c)(2) or comparable State authorities. The Army reserves any and all rights that it may have under law with respect to any potentially responsible party.

38 FUNDING

It is the expectation of the Parties to this Agreement that all obligations of SAAD arising under this Agreement will be fully funded. SAAD agrees to seek sufficient funding through the DOD budgetary process to fulfill its obligations under this Agreement.

In accordance with Section 120(e)(5)(B) of CERCLA, 42 U.S.C. §9620(e)(5)(B), SAAD shall include in its annual report to Congress the specific cost estimates and budgetary proposals associated with the implementation of this Agreement.

Any requirement for the payment or obligation of funds, including stipulated penalties, by SAAD established by the terms of this

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Agreement shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C.

§1341. In cases where payment or obligation of funds would constitute a violation of the Anti-Deficiency Act, the dates established requiring the payment or obligation of such funds shall be appropriately adjusted.

If appropriated funds are not available to fulfill SAAD's obligations under this Agreement, the other Parties reserve the right to initiate an action against any other person, or to take any response action, which would be appropriate absent this Agreement.

Funds authorized and appropriated annually by Congress under the "Environmental Restoration, Defense" appropriation in the Department of Defense Appropriation Act and allocated by the DASD(E) to SAAD will be the source of funds for activities required by this Agreement consistent with Section 211 of SARA, 10 U.S.C. Chapter 160. However, should the Environmental Restoration, Defense appropriation be inadequate in any year to meet the total Army CERCLA implementation requirements, the DOD shall employ and SAAD shall follow a standardized DOD prioritization process which allocates that year's appropriations in a manner which maximizes the protection of human health and the environment. A standardized DOD prioritization model shall be developed and utilized with the assistance of EPA and the States.

39 TERMINATION DATE

This Agreement shall terminate upon a determination by the Parties that the Army has satisfied the requirements of the Agreement as set forth herein.

40 ENFORCEABILITY

A. The Parties agree that:

(1) Upon the effective date of this Agreement, any standard, regulation, condition, requirement or order which has become effective under CERCLA and is incorporated into this Agreement is enforceable by any person pursuant to Section 310 of CERCLA, and any violation of such standard, regulation, condition, requirement or order will be subject to civil penalties under Sections 310(c) and 109 of CERCLA; and

(2) all timetables or deadlines associated with the RI/FS shall be enforceable by any person pursuant to Section 310 of CERCLA, and any violation of such timetables or deadlines will be subject to civil penalties under Sections 310(c) and 109 of CERCLA;

(3) all terms and conditions of this Agreement which relate to interim or final remedial actions, including corresponding timetables, deadlines or schedules, and all work associated with the interim or final remedial actions, shall be enforceable by any person

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pursuant to Section 310(c) of CERCLA, and any violation of such terms or conditions will be subject to civil penalties under Sections 310(c) and 109 of CERCLA; and

(4) any final resolution of a dispute pursuant to Section 15 of this Agreement which establishes a term, condition, timetable, deadline or schedule shall be enforceable by any person pursuant to Section 310(c) of CERCLA, and any violation of such term, condition, timetable, deadline or schedule will be subject to civil penalties under Sections 310(c) and 109 of CERCLA.

B. Nothing in this Agreement shall be construed as authorizing any person to seek judicial review of any action or work where review is barred by any provision of CERCLA, including Section 113(h) of CERCLA.

C. The Parties agree that all Parties shall have the right to enforce the terms of this Agreement.

41 FORCE MAJEURE

A Force Majeure shall mean any event arising from causes beyond the control of a party that causes a delay in or prevents the performance of any obligation under this Agreement, including, but not limited to, acts of God; fire; war; insurrection; civil disturbance; explosion; unanticipated breakage or accident to machinery, equipment or lines of pipe despite reasonably diligent

maintenance; adverse weather conditions that could not be reasonably anticipated; unusual delay in transportation; restraint by court order or order of public authority; inability to obtain, at reasonable cost and after exercise of reasonable diligence, any necessary authorizations, approvals, permits or licenses due to action or inaction of any governmental agency or authority other than the SAAD; delays caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures, despite the exercise of reasonable diligence; and insufficient availability of appropriated funds, if the SAAD shall have made timely request for such funds as part of the budgetary process as set forth in Section 38 (Funding) of his Agreement. A Force Majeure shall also include any strike or other labor dispute, whether or not within the control of the Parties affected thereby. Force Majeure shall not include increased costs or expenses of Response Actions, whether or not anticipated at the time such Response Actions were initiated.

42 STATE TECHNICAL ASSISTANCE EXPENSES

SAAD agrees to reimburse DHS for the costs related to the implementation of the Agreement in an amount that shall not exceed:

A. Seventy-Five thousand dollars (\$75,000.00) per year for each of the first two years of this Agreement.

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B. At the end of the second year, technical expenses will be renegotiated for succeeding years in accordance with the DOD and State Agreement procedures. If the Army and DHS can not reach agreement on the amount of the technical expenses, the Army and DHS agree to negotiate a cap for future technical assistance expenses.

C. In the event that the Army and DHS are unable to reach agreement after good faith negotiation pursuant to subparagraph B above; the Army and DHS shall refer any remaining issues related to cost reimbursement to dispute resolution in accordance with Attachment 5 of this Agreement.

D. If DHS and the Army cannot resolve their disputes pursuant to Attachment 5 of this Agreement, DHS may withdraw as a party to this Agreement by providing written notice of its withdrawal to each of the parties. Such withdrawal by DHS will terminate all of the duties and responsibilities which DHS may have under this Agreement.

E. Reimbursement of costs provided to DHS under this Agreement shall be in accordance with this section and Attachment 5 to this Agreement.

43 RESERVATION OF RIGHTS FOR RECOVERY OF OTHER EXPENSES

The Parties agree to amend this Agreement at a later date in accordance with any subsequent national resolution of the issue of cost reimbursement.

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Each undersigned representative of a Party certifies that he or she is fully authorized to enter into the terms and conditions of this Agreement and to legally bind such Party to this Agreement.

IT IS SO AGREED:

FOR THE U.S. DEPARTMENT OF THE ARMY:

12/12/88
Date

Lewis D. Walker
Lewis D. Walker
Deputy for Environmental Safety,
and Occupation Health
Office of the Assistant Secretary
of the Army (I&L)

12/16/88
Date

Richard T. O'Neill
Richard T. O'Neill
Colonel, OD
Commander, Sacramento Army Depot

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:

12/12/88
Date

J. Winston Porter
J. Winston Porter
Assistant Administrator
United States Environmental
Protection Agency

12-16-88
Date

Daniel W. McGovern
Daniel W. McGovern
Regional Administrator
United States Environmental
Protection Agency Region 9

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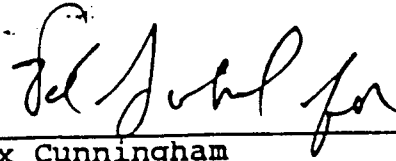
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FOR THE STATE OF CALIFORNIA:

12/16/88

Date



Alex Cunningham
Chief Deputy Director
Toxic Substances Control Division
California Department of
Health Services

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FOR THE STATE OF CALIFORNIA:

12/16/88
Date

Alex Cunningham
Alex Cunningham
Chief Deputy Director
Toxic Substances Control Division
California Department of
Health Services

///

12/21/88
Date

Alex R. Cunningham
Alex R. Cunningham
Chief Deputy Director
Toxic Substances Control Division
California Department of
Health Services

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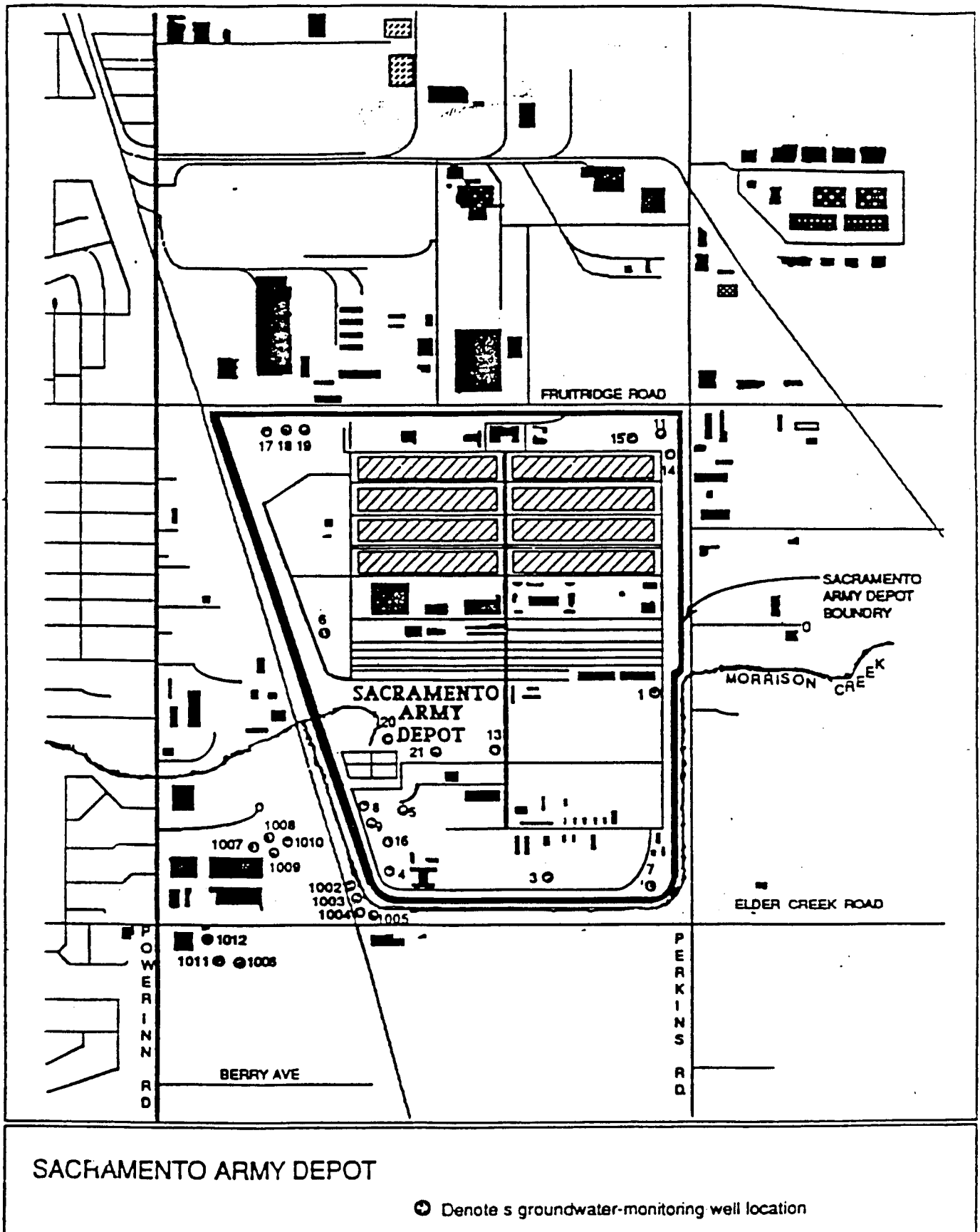
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LIST OF ATTACHMENTS

1. Site Map
2. Operable Unit Feasibility Studies
 - 2A. Ground Water OUFS
 - 2B. OUFS
3. Remedial Investigation/Feasibility Study
4. Toxicity of Substances Found At Sacramento Army Depot
5. Payment Procedure for State Technical Assistance Expenses

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ATTACHMENT 2

2A. GROUND WATER OPERABLE UNIT FEASIBILITY STUDY

The ground water operable unit feasibility study (OUFS) is a study of remedial alternatives that address ground water contamination at SAAD. The ground water OUFS presents relevant information concerning viable remedial alternatives that is needed to allow decision makers to select an appropriate, cost-effective ground water remedial approach. In general, the OUFS is performed in accordance with the FS procedures outlined in Attachment 3, as modified by the Technical Review Committee. For the ground water OUFS, the alternatives will be screened relative to implementability instead of technical feasibility in the FS Phase II: Screening of Alternatives.

GROUND WATER OPERABLE UNIT FEASIBILITY STUDY REPORT

The ground water OUFS final report outline is shown below:

Note: Bulletized items will be included in the section under which they are listed; however, they will not necessarily be called out as separate headings.

1 EXECUTIVE SUMMARY

2 INTRODUCTION

2.1 Background

- Site Description
- Site History

2.2 Nature and Extent of Ground Water Contamination

- Summary of Remedial Investigation Results
- Identification of Media and Volumes to be Treated

2.3 Operable Unit Remedial Response Objectives

- Summary of General Objectives
- Identification of ARARs
- Design Basis for Treatment Alternatives

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3 PUBLIC HEALTH EVALUATION (Ref. No. 3)

- 3.1 Selection of Indicator Chemicals
- 3.2 Estimation of Exposure Point Concentration of Indicator Chemicals
 - 3.2.1 Exposure Pathways
 - Sources of Chemical Release
 - Identification and Characterization of Possible Exposure Points
 - Development of Exposure Pathways
 - Identification of Sensitive Human Receptors
 - 3.2.2 Estimation of Exposure Point Concentrations
 - Quantification of Chemical Releases
 - Prediction of Environmental Transport and Fate
 - 3.2.3 Pertinent Requirements, Standards, and Criteria
 - Comparison of Estimated Point Concentrations to ARARs
 - Comparison of Estimated Point Concentrations to Other Criteria, Advisories, and Guidances
- 3.3 Estimation of Chemical Intakes
 - 3.3.1 Air Intakes
 - 3.3.2 Ground Water Intakes
 - 3.3.3 Surface Water Intakes
 - 3.3.4 Intakes from Other Exposure Pathways
 - 3.3.5 Estimated Total Oral and Inhalation Intakes
- 3.4 Toxicity Assessment
- 3.5 Health Risk Characterization
 - 3.5.1 Noncarcinogenic Effects
 - 3.5.2 Potential Carcinogenic Effects
 - 3.5.3 Uncertainties of Health Risk

4 IDENTIFICATION AND SCREENING OF GROUND WATER OUFS TECHNOLOGIES

- 4.1 General Response Actions
 - Identification of Applicable Technologies
- 4.2 Technology Screening
 - 4.2.1 Technology Screening Criteria

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- 4.2.1.1 Technical Feasibility
 - 4.2.1.2 Public Health, Environmental, and Institutional Factors
 - 4.2.1.3 Costs
 - 4.2.2 Screening of Technologies
 - 4.3 Technologies Passing Screening
 - 4.3.1 No Action
 - 4.3.2 Ground Water Monitoring
 - 4.3.3 Extraction Wells
 - 4.3.4 Physical Treatment
 - 4.3.4.1 Air Stripping
 - 4.3.4.2 Carbon Adsorption
 - 4.3.5 Chemical Treatment
 - 4.3.5.1 Chemical Oxidation
 - 4.3.5.2 Ultraviolet Radiation/Chemical Oxidation
 - 4.3.6 Disposal
 - 4.3.6.1 Water Discharge
 - 4.3.6.1.1 Publicly Owned Treatment Works
 - 4.3.6.1.2 Surface Water
 - 4.3.6.1.3 Injection Wells
 - 4.3.6.1.4 Irrigation
 - 4.3.6.1.5 Industrial Reuse
 - 4.3.6.2 Air Discharge
- 5 DEVELOPMENT AND SCREENING OF GROUND WATER OUTFALL ALTERNATIVES
 - 5.1 Development of Alternatives
 - 5.1.1 Alternative 1 - No Action
 - 5.1.2 Alternative 2 - Containment by Pumping, Air Stripping, Surface Discharge
 - 5.1.3 Alternative 3 -
 - 5.2 Screening of Alternatives
 - 5.2.1 Public Health and Environmental Factors
 - 5.2.2 Implementability
 - 5.2.3 Costs
 - 5.3 Summary of Alternatives Screening
 - 5.3.1 Alternative 1 - No Action
 - 5.3.2 Alternative 2, 3, and 4 -

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6 TREATABILITY/POST-SCREENING INVESTIGATIONS

- 6.1 Data Requirements
- 6.2 Air Stripper Process Design
 - 6.2.1 Computer Evaluation Methodology
 - 6.2.2 Computer Evaluation Results
 - 6.2.3 Process Design Considerations
- 6.3 Carbon Adsorption Process Design
 - 6.3.1 Adsorption Isotherm Test Procedures
 - 6.3.2 Adsorption Isotherm Test Results
 - 6.3.3 Process Design Considerations
- 6.4 UV/Chemical Oxidation Process Design
 - 6.4.1 Bench Test Methodology
 - 6.4.2 Bench Test Results
 - 6.4.3 Process Design Considerations
- 6.5 Treatment System Preliminary Designs
 - 6.5.1 Air Stripper Preliminary Design
 - 6.5.2 Carbon Adsorption System Preliminary Design
 - 6.5.3 UV/Chemical Oxidation System Preliminary Design

7 DETAILED ANALYSIS OF GROUND WATER OUFS ALTERNATIVES

- 7.1 Evaluation Criteria for Detailed Analysis
- 7.2 Detailed Analysis of Alternatives
 - 7.2.1 Alternative 1 - No Action
 - Description
 - Alternative Assessment Relative to the Following Criteria:
 - 1. Short-Term Effectiveness
 - 2. Long-Term Effectiveness and Permanence
 - 3. Reduction of Mobility, Toxicity, and Volume
 - 4. Implementability
 - 5. Compliance with ARARs
 - 6. Overall Protection of Human Health and the Environment
 - 7. State Acceptance
 - 8. Community Acceptance
 - 9. Cost

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- 7.2.2 Alternative 2 - (The remaining alternatives will be analyzed based on the same criteria as utilized in the Alternative 1 analysis.)

8 COMPARATIVE ANALYSIS OF GROUND WATER OUFS ALTERNATIVES

8.1 Evaluation Process

8.2 Non-Cost Criteria Analysis

- 8.2.1 Short-Term Effectiveness
- 8.2.2 Long-Term Effectiveness and Permanence
- 8.2.3 Reduction of Mobility, Toxicity, and Volume
- 8.2.4 Implementability
- 8.2.5 Compliance with ARARs
- 8.2.6 Overall Protection of Human Health and the Environment
- 8.2.7 State Acceptance
- 8.2.8 Community Acceptance

8.3 Cost Criteria Analysis

9 RECOMMENDED GROUND WATER OUFS ALTERNATIVE

9.1 Summary of Alternative Evaluation

9.2 Selection of Recommended Alternative

Appendices will include the following information:

- State ARARs Listing
- Background Public Health Risk Data
- Modeling of Hydrology at the SAAD
- Background Discussion of Treatment Technologies
- Treatability Study Results
- Cost Estimate Tables

Following agency review of the OUFS report, the SAAD will generate a Proposed Plan for Remedial Action. The Proposed Plan will be made available for public review and comment. The OUFS final report will be included in the administrative record prior to the public comment period. Following the public comment period, a Responsiveness Summary

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will be prepared for the public comment period. The Record of Decision will be prepared following incorporation of appropriate agency and public comments in the Proposed Plan.

If the SAAD discovers a need to perform additional ground water feasibility studies, the ground water OUFS will be amended to include the additional analysis required for modification of the existing ground water remediation system.

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2B. OPERABLE UNIT FEASIBILITY STUDY

The March 1988 Guidance (Ref. No. 2) does not address procedures for initiating and/or conducting non-final remedial actions. Generally, the OUFSSs will be performed in accordance with the FS procedures outlined in Attachment 3. Based on information available to date, the following outline will be used for future OUFSSs at SAAD:

OPERABLE UNIT FEASIBILITY STUDY REPORT

Note: Bulletized items will be included in the section under which they are listed; however, they will not necessarily be called out as separate headings.

1 EXECUTIVE SUMMARY

2 INTRODUCTION

2.1 Background

- Site Description
- Site History

2.2 Nature and Extent of Contamination

- Summary of Available Data
- Identification of Media and Volumes to be Treated

2.3 Operable Unit Remedial Response Objectives

- Summary of General Objectives
- Identification of ARARs
- Design Basis for Treatment Alternatives

3 PUBLIC HEALTH EVALUATION (Ref. No. 3)

3.1 Selection of Indicator Chemicals

3.2 Estimation of Exposure Point Concentration of Indicator Chemicals

3.2.1 Exposure Pathways

- Sources of Chemical Release
- Identification and Characterization of Possible Exposure Points

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- Development of Exposure Pathways
- Identification of Sensitive Human Receptors
- 3.2.2 Estimation of Exposure Point Concentrations
 - Quantification of Chemical Releases
 - Prediction of Environmental Transport and Fate
- 3.2.3 Pertinent Requirements, Standards, and Criteria
 - Comparison of Estimated Point Concentrations to ARARs
 - Comparison of Estimated Point Concentrations to Other Criteria, Advisories, and Guidances
- 3.3 Estimation of Chemical Intakes
 - 3.3.1 Air Intakes
 - 3.3.2 Ground Water Intakes
 - 3.3.3 Surface Water Intakes
 - 3.3.4 Intakes from Other Exposure Pathways
 - 3.3.5 Estimated Total Oral and Inhalation Intakes
- 3.4 Toxicity Assessment
- 3.5 Health Risk Characterization
 - 3.5.1 Noncarcinogenic Effects
 - 3.5.2 Potential Carcinogenic Effects
 - 3.5.3 Uncertainties of Health Risk

4 IDENTIFICATION AND SCREENING OF OUFBS TECHNOLOGIES

- 4.1 General Response Actions
 - Identification of Applicable Technologies
- 4.2 Technology Screening
 - 4.2.1 Technology Screening Criteria
 - 4.2.1.1 Technical Feasibility
 - 4.2.1.2 Public Health, Environmental, and Institutional Factors
 - 4.2.1.3 Costs
 - 4.2.2 Screening of Technologies
- 4.3 Technologies Passing Screening
 - 4.3.1 No Action
 - 4.3.2 Technology #1

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5 DEVELOPMENT AND SCREENING OF OUFS ALTERNATIVES

5.1 Development of Alternatives

5.1.1 Alternative 1 - No Action

5.1.2 Alternative 2 -

5.2 Screening of Alternatives

5.2.1 Public Health and Environmental Factors

5.2.2 Technical Feasibility

5.2.3 Costs

5.3 Summary of Alternatives Screening

5.3.1 Alternative 1 - No Action

5.3.2 Alternative 2

6 TREATABILITY STUDIES

7 DETAILED ANALYSIS OF OUFS ALTERNATIVES

7.1 Evaluation Criteria for Detailed Analysis

7.2 Detailed Analysis of Alternatives

7.2.1 Alternative 1 - No Action

- Description

- Alternative Assessment Relative to the Following Criteria:

1. Short-Term Effectiveness

2. Long-Term Effectiveness and Permanence

3. Reduction of Mobility, Toxicity, and Volume

4. Implementability

5. Compliance with ARARs

6. Overall Protection of Human Health and the Environment

7. State Acceptance

8. Community Acceptance

9. Cost

7.2.2 Alternative 2 - (The remaining alternatives will be analyzed based on the same criteria as utilized in the Alternative 1 analysis.)

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8 COMPARATIVE ANALYSIS OF OUFS ALTERNATIVES

8.1 Evaluation Process

8.2 Non-Cost Criteria Analysis

- 8.2.1 Short-Term Effectiveness
- 8.2.2 Long-Term Effectiveness
- 8.2.3 Reduction of Mobility, Toxicity, and Volume
- 8.2.4 Implementability
- 8.2.5 Compliance with ARARs
- 8.2.6 Overall Protection of Human Health and Environment
- 8.2.7 State Acceptance
- 8.2.8 Community Acceptance

8.3 Cost Criteria Analysis

9 RECOMMENDED OUFS ALTERNATIVE

9.1 Summary of Alternative Evaluation

9.2 Selection of Recommended Alternative

Appendices will include the following information:

- State ARARs Listing
- Background Public Health Risk Data
- Treatability Study Results
- Cost Estimate Tables

Following agency review of the OUFS report, the SAAD will generate a Proposed Plan for Remedial Action. The Proposed Plan will be made available for public review and comment. The OUFS final report will be included in the administrative record prior to the public comment period. Following the public comment period, a Responsiveness Summary will be prepared for the public comment period. The Record of Decision will be prepared following incorporation of appropriate agency and public comments in the Proposed Plan.

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ATTACHMENT 3
TASKS IN INTEGRATED RI/FS

The SAAD shall address each of the following elements in the RI/FS and shall submit the described documents for agency review.

The objectives of the RI/FS program are as follows:

- o Determine the nature and extent of contaminants in groundwater, surface water, soil, and air.
- o Characterize the geographic and geohydrologic conditions of the site.
- o Identify Federal and State applicable or relevant and appropriate requirements (ARARs).
- o Identify existing and potential sources of contamination and migration pathways.
- o Conduct a baseline public health evaluation (PHE) based on validated RI/FS information and data.
- o Identify and evaluate remedial alternatives in accordance with EPA RI/FS guidance, and
- o Prepare a Proposed Plan for Remedial Action for public comment

The major elements of the RI/FS are: (These documents do not correspond directly to the primary submittals referenced within the IAG.)

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- I RI/FS Workplan
- II Quality Assurance Project Plan
- III Field Sampling Plan
- IV Health and Safety Plan
- V Community Relations Plan
- VI Remedial Investigation Report
- VII Risk Assessment
- VIII Feasibility Study Report

I. RI/FS WORK PLAN - (Primary Submittal No. 1, Ref. No. 2, p. 2-29 for format)

The work plan documents the scoping process and presents anticipated future tasks. It also serves as a tool for assigning responsibilities and setting the project schedule. The following elements will be included in the RI/FS work plan.

1. INTRODUCTION

2. SITE BACKGROUND AND PHYSICAL SETTING

- 2.1 Site Description
- 2.2 Site History
- 2.3 Results of Previous Investigations
 - 2.3.1 Ground Water Release Characterization
 - 2.3.2 Surface Water Release Characterization
 - 2.3.3 Subsurface Soil Release Characterization
 - 2.3.4 Air Release Characterization
 - 2.3.5 Geological Study Results
 - 2.3.6 Hydrological Study Results
 - 2.3.7 Natural Resources Damage Survey Results
 - 2.3.8 Summary of Previous Response Actions
- 2.4 RCRA Facility Assessment -- Preliminary Review of Potential Solid Waste Management Units

3. INITIAL EVALUATION

- 3.1 Types and volumes of waste present
- 3.2 Potential pathways of contaminant migration/preliminary public health and environmental impacts.
- 3.3 Preliminary identification of operable units
- 3.4 Preliminary identification of response objectives and remedial action alternatives

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4. **WORK PLAN RATIONALE**
 - 4.1 Data Quality Objectives and Needs
 - 4.2 Work Plan Approach
 - 4.3 Initial Identification of Potential ARARs (Ref. No. 13)
 - 4.3.1 Ambient or Chemical-specific ARARs
 - 4.3.2 Performance, Design, or Action-specific ARARs
 - 4.3.3 Location-specific ARARs
5. **RI/FS TASKS (Ref. No. 2, p. B-2 - B-9)**
 - 5.1 Project Planning
 - 5.2 Community Relations
 - 5.3 Field Investigation
 - 5.4 Sample Analysis/Validation
 - 5.5 Data Evaluation
 - 5.6 Assessment of Risks
 - 5.7 Treatability Studies/Pilot Testing
 - 5.8 Remedial Investigation Reports
 - 5.9 Remedial Alternatives Screening
 - 5.10 Remedial Alternatives Evaluation
 - 5.11 Feasibility Study/RI/FS Reports
 - 5.12 Post RI/FS Support
 - 5.13 Expedited Response Action (ERA) Planning
 - 5.14 RCRA Facility Assessment Study
6. **SCHEDULE**

Timetables and deadlines shall be established in accordance with Section 16 of the agreement, "Deadlines".
7. **PROJECT MANAGEMENT**
 - 7.1 Installation Restoration Program Organization Chart
 - 7.2 Agency Coordination
8. **REFERENCES**

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SAMPLING AND ANALYSIS PLAN (SAP) (Primary Submittal No. 2, Ref. No. 2, p. 2-30 through 2-32)

The Sampling and Analysis Plan (SAP) consists of the Quality Assurance Project Plan (QAPP) and the Field Sampling Plan (FSP).

The Quality Assurance Project Plan (QAPP) and the Field Sampling Plan (FSP) will be prepared for all field activities. Preparation of these plans will take place before the RI field investigation, but these plans may be amended during the RI site characterization, treatability studies, or during the FS, as the need for field activities is reassessed and rescoped.

II. QUALITY ASSURANCE PROJECT PLAN (QAPP) (Ref. No. 2, p. 2-32)

The proposed outline for the QAPP is :

TITLE PAGE

The bottom of the title page will include signature blocks for approving personnel, as appropriate.

- 1. INTRODUCTION**
 - 1.1 Listing of the 16 QAPP components
 - 1.2 Listing of appendices and references required to augment the QAPP (including laboratory certifications)
 - 1.3 Individuals receiving official copies of the QAPP and revisions
- 2. PROJECT DESCRIPTION**
- 3. PROJECT ORGANIZATION AND RESPONSIBILITY**
- 4. QUALITY ASSURANCE OBJECTIVES FOR MEASUREMENT OF DATA**
 - 4.1 Precision
 - 4.2 Accuracy
 - 4.3 Completeness
 - 4.4 Representativeness
 - 4.5 Comparability

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5. SAMPLING PROCEDURES

- 5.1 Method of Collection
- 5.2 Rational for Sample Site Selection
- 5.3 Preparation of Sampling Equipment and Containers
- 5.4 Type and Volume of Sample Container
- 5.5 Description of Decontamination Procedures
- 5.6 Holding Time and Preservation Method
- 5.7 Time Consideration for Sample Shipping
- 5.8 Documentation of Sample History, Conditions and Analyses

6. SAMPLE CUSTODY

- 6.1 Field Sampling Operation
 - 6.1.1 Documentation of Sample Location and Conditions Associated with Sample Acquisition
 - 6.1.2 Documentation of Procedure for Preparation of Reagents
 - 6.1.3 Documentation of Method for Sample Preservation
 - 6.1.4 Labeling Techniques
 - 6.1.5 Availability of Chain of Custody Form
- 6.2 Laboratory Operation
 - 6.2.1 Identification of Sample Custodian
 - 6.2.2 Lab Procedure for Sample Handling, Storage and Disbursement for Analysis
 - 6.2.3 Specification of Lab Sample Custody Procedures for Sample Handling, Storage and Disbursement for Analysis

7. CALIBRATION PROCEDURES

- 7.1 Major Measurement Parameters
 - 7.1.1 Pollutant Measurement System
 - 7.1.2 Standard Operation Procedure (SOP)
 - 7.1.3 Description of Calibration Procedures
- 7.2 Frequency of Re-calibration
- 7.3 Calibration Standards
- 7.4 Calibration and Repair Log

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8. ANALYTICAL PROCEDURES

8.1 Method Name and Number

8.2 Description of Analytical Procedures

8.2.1 Analyses

8.2.2 Parameter Group

8.2.3 Method Name and Number

8.2.4 Detection Limit

9. DATA REDUCTION, VALIDATION, AND REPORTING

9.1 Data Reduction Scheme Planned on Collected Data

9.2 Criteria used to Validate Data Integrity During Data Collection and Reporting.

9.3 Methods Used to Identify and Treat Outliers

9.4 Reporting Scheme for Collection of Raw Data

9.5 Key Individuals in Reporting Scheme

10. INTERNAL QUALITY CONTROL

10.1 Replicates

10.2 Spiked Samples

10.3 Split Samples

10.4 Control Charts

10.5 Blanks

10.6 Internal Standards

10.7 Zero and Span Gases

10.8 Quality Control Samples

10.9 Surrogate Samples

10.10 Calibration Standards and Devices

10.11 Reagent Checks

11. PERFORMANCE AND SYSTEM AUDITS

11.1 Internal Audits

11.1.1 Description of Audits

11.1.2 Parties Performing Audits

11.1.3 Frequency of Audits

11.1.4 Person to Receive Audit Reports

11.2 External Audits

11.2.1 Description of Audits

11.2.2 Parties Performing Audits

11.2.3 Frequency of Audits

11.2.4 Person to Receive Audit Reports

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12. PREVENTIVE MAINTENANCE

- 12.1 Schedule of Maintenance to Minimize Downtime
- 12.2 Critical Spare Parts to Minimize Downtime

13. DATA ASSESSMENT PROCEDURES

- 13.1 Data Precision
- 13.2 Data Accuracy

14. PROCEDURES FOR IDENTIFYING WHEN CORRECTIVE ACTION IS REQUIRED

The following subsections constitute routine and random checks that would trigger corrective action:

14.1 Routine Procedure

- 14.1.1 Limit for Data Acceptability Beyond Which Corrective Action is Required
- 14.1.2 Re-evaluation of Analyst's Work and Instrumentation Checks
- 14.1.3 Corrective Action Initiator and Approver

14.2 Random Procedures

- 14.2.2 Performance Audits
- 14.2.2 System Audits
- 14.2.3 Lab/Interfield Comparison Studies
- 14.2.4 QA Program Conducted by Quality Assurance Management Staff (QAMS)

15. QUALITY ASSURANCE REPORTS

- 15.1 Periodic Assessment of Data Quality, Precision and Completeness
- 15.2 Results of Performance Audits
- 15.3 Results of System Audits
- 15.4 QA Problems and Solutions
- 15.5 Frequency of Reporting

DATA MANAGEMENT PLANS (Secondary Submittal No. 1, Ref. No. 9)

The data management methods will be outlined in the FSP/QAPP and will include procedures to document and track:

- o Data, information, and results
- o Field activities
- o Sample management
- o Control and inventory

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III. FIELD SAMPLING PLAN (FSP) (Ref. No. 2)

The FSP will contain the following elements:

1. SITE BACKGROUND

- 1.1 Site Description
- 1.2 Known and Suspected Contaminant Sources
- 1.3 Probable Transport Pathways
- 1.4 Data Gaps

2. SAMPLING OBJECTIVES

3. SAMPLING LOCATIONS AND FREQUENCY

- 3.1 Rational for Sampling Location and Number of Samples
- 3.2 Sample Locations (including maps)
- 3.3 Number of Samples
- 3.4 Requests for Analyses

4. SAMPLE IDENTIFICATION

5. SAMPLING EQUIPMENT AND PROCEDURES

- 5.1 Method of Collection (including Engineering Specifications)
- 5.2 Rationale for Sample Site Selection
- 5.3 Preparation of Sampling Equipment and Containers
- 5.4 Type and Volume of Sample Container
- 5.5 Description of Decontamination Procedures
- 5.6 Disposal of RI-Generated Wastes

6. SAMPLE HANDLING AND ANALYSES

- 6.1 Holding Time and Preservation Method (include Table)
- 6.2 Time Consideration for Sample Shipping
- 6.3 Documentation of Sample History, Conditions and Analyses (include example forms)
- 6.4 Quality Assurance
 - 6.4.1 Replicates
 - 6.4.2 Blanks

7. SITE SPECIFIC HEALTH AND SAFETY PLAN

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IV. HEALTH AND SAFETY PLAN (Secondary Submittal No. 7, Ref. No. 10)
The site health and safety plan will be prepared concurrently with the FSP/QAPP. The plan will include a detailed site description with maps, results of previous sampling activities, and field reports.

V. COMMUNITY RELATIONS PLAN (Primary Submittal No. 12, Ref. Nos. 1 and 5)

The Community Relations Plan (CRP) documents the community relations history and the issues of concern. It describes the techniques that will be needed to achieve the objectives of the program.

The following elements should be presented in the CRP.

- o Investigation activities
- o Cleanup activities
- o Public comment opportunities
- o Cleanup decisions

During the RI/FS, the following community relations tasks will be carried out:

- o Revisions & additions to the CRP
- o Analysis of community attitudes toward proposed actions
- o Preparation and dissemination of information
 - News releases
 - Fact sheets and updates
 - Slide shows
 - Exhibits
 - Audio & Visual Materials
 - Establishment of a Community Information Center
 - Arrangement for briefings, press conferences, etc.
 - Technical Assistant Grant support

CRP and procedures will be in accordance with Department of Health Services policies and procedures.

VI. REMEDIAL INVESTIGATION

The RI serves as the mechanism for collecting data for site and waste characterization and for conducting treatability testing as necessary to evaluate the performance and cost of the treatment technologies and support the design of selected remedies.

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Data may be collected in several stages. As the site is better characterized, subsequent data collection efforts will be focused to fill any existing gaps in the data. This phased sampling approach encourages identification of key data needs as early in the process as possible to ensure that data collection is always directed toward providing information relevant to selection of a remedial action. In this way, the overall site characterization effort will be continually re-scoped to minimize the collection of unnecessary data and maximize data quality.

Field investigation will be conducted during the RI to determine site physical characteristics. Data collected during the RI will be evaluated to assess:

1. The source characteristics
2. The nature and extent of contamination
3. The contaminant fate and transport mechanisms.

Subsequent data collection may be required as data needs for assessing the nature and extent of contamination and/or conducting the detailed analysis for proposed remedial alternatives are refined.

VI. REMEDIAL INVESTIGATION REPORT (Primary Submittal No. 3, Ref. No. 2, p. 3-55 through 3-56 for format)

A draft RI report will be prepared that documents data collection and analysis tasks performed in support of the FS. The expected format for the RI report is:

Executive Summary

- 1. INTRODUCTION**
 - 1.1 Purpose of Report
 - 1.2 Site Background
 - 1.2.1 Site Description
 - 1.2.2 Site History
 - 1.2.3 Previous Investigations
 - 1.3 Report Organization

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2. STUDY AREA INVESTIGATION

Includes field activities associated with site characterization.

These may include physical and chemical monitoring of the following:

- 2.1 Surface Features (topographic mapping, etc. of natural and man-made features)
- 2.2 Contaminant Source Investigations
- 2.3 Meteorological Investigations
- 2.4 Surface-Water and Sediment Investigations
 - 2.4.1 Location and Sampling Frequencies
 - 2.4.2 Sampling Techniques, Methods, and Analyses
- 2.5 Geological Investigations
- 2.6 Soil and Vadose Zone Investigations
 - 2.6.1 Location and Sampling Frequencies
 - 2.6.2 Sampling Techniques, Methods, and Analyses
- 2.7 Ground Water Investigations
- 2.8 Human Population Surveys
- 2.9 Ecological Investigations
- 2.10 Summary of Technical Memoranda documenting field activities (if available)
- 2.11 Results of RCRA Facility Assessment Investigation (For those Solid Waste Management Units that require additional investigation, they will be investigated under a CERCLA RI. The CERCLA RI is assumed to be the functional equivalent of the RCRA Facility Investigation.)

3. PHYSICAL CHARACTERISTICS OF THE STUDY AREA

Includes results of field activities to determine physical characteristics. These may include the following:

- 3.1 Surface Features
- 3.2 Meteorology
- 3.3 Surface-Water Hydrology (including flood potential)
- 3.4 Regional and Site Geology and Soils
 - 3.4.1 Soil Strata/Transport of contaminants
 - 3.4.2 Soil Attenuation Capacity and Mechanisms
 - 3.4.3 Soil Structure, Porosity, Mineralogy, Grain Size Distribution

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- 3.5 Hydrogeology
 - 3.5.1 Aquifer Transmissivities, Conductivities, and Permeabilities
 - 3.5.2 Depth of Water Tables
 - 3.5.3 Ground Water Flow Direction and Rate
 - 3.5.4 Areas of Recharge and Discharge
 - 3.5.5 Vertical Gradients
 - 3.5.6 Hydraulic Barriers
 - 3.5.7 Vadose Zone Monitoring
- 3.6 Ecology
- 3.7 Demography and Land Use

4. NATURE AND EXTENT OF CONTAMINATION

Presents the results of site characterization, both natural chemical components and contaminants in the following media:

- 4.1 Sources (lagoons, sludges, tanks, etc.)
- 4.2 Soils and Vadose Zone
 - 4.2.1 Vertical and Horizontal Extent of Contamination
 - 4.2.2 Estimated Quantities of Subsurface Wastes
 - 4.2.3 Background Concentrations
- 4.3 Ground Water
 - 4.3.1 Vertical and Horizontal Extent of Migration
 - 4.3.2 Estimated Rate of Migration
 - 4.3.3 Groundwater Flow/Contaminant Transport Models (if appropriate)
- 4.4 Surface Water and Sediments
- 4.5 Air
- 4.6 Results of Remedial Investigation for RCRA Facilities (RCRA Facility Investigation equivalent)

5. CONTAMINANT FATE AND TRANSPORT

- 5.1 Potential Routes of Migration (i.e., air, ground waters, etc.)
- 5.2 Contaminant Persistence
 - 5.2.1 Description of estimated persistence in the study area environment and physical, chemical, and/or biological factors of importance for the media of interest.

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5.3 Contaminant Migration

5.3.1 Discussion of factors affecting contaminant migration for the media of importance (e.g., sorption onto soils, solubility in water, movement of ground water, etc.)

5.3.2 Discussion of modeling methods and results, if applicable.

6. BASELINE RISK ASSESSMENT (Ref. Nos. 3 and 4)

The Baseline Risk Assessment consists of the Baseline Public Health Evaluation and the Environmental Assessment. The results of the Baseline Risk Assessment will be summarized in the RI report as follows:

6.1 Public Health Evaluation (Detail included in Appendix C)

6.1.1 Exposure Assessment

6.1.2 Toxicity Assessment

6.1.3 Degree of Hazard (Risk Characterization)

6.1.3.1 Ground Water

6.1.3.2 Surface Water

6.1.3.3 Surface and subsurface soils and sediments

6.1.3.4 Atmosphere

6.2 Environmental Assessment

Characterization of the environmental risks will involve identifying the potential exposures to the surrounding ecological receptors and evaluating the potential effects associated with such exposure(s).

6.2.1 Identification of Ecological Receptors

6.2.2 Characterization of Chemical Releases and Exposure Point Concentrations

6.2.3 Toxicity Assessment

6.2.4 Biological Risk Characterization

7. SUMMARY AND CONCLUSIONS

7.1 Summary

7.1.1 Nature and Extent of Contamination

7.1.2 Fate and Transport

7.1.3 Risk Assessment

7.2 Conclusions

7.2.1 Data Limitations and Recommendations for Future Work

7.2.2 Recommended Remedial Action Objectives

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Appendix:

- A. Technical Memorandum on Field Activities (if available)
- B. Analytical Data and QA/QC Evaluation Results
- C. Risk Assessment Methods (see attached outline for Risk Assessment)

VII. RISK ASSESSMENT

- A. Public Health Evaluation (Ref. No. 3)

Step 1: Selection of Indicator Chemicals

- 1.1 Develop Initial List of Indicator Chemicals
- 1.2 Select Final Indicator Chemicals

Step 2: Estimation of Exposure Point Concentration of Indicator Chemicals

- 2.1 Identify Exposure Pathways
 - 2.1.1 Chemical Release Sources and Media
 - 2.1.2 Identify and Characterize Possible Exposure Points
 - 2.1.3 Integrated Release Sources, Transport Media, Exposure Points, and Exposure Routes Into Exposure Pathways
 - 2.1.4 Sensitive Human Populations
- 2.2 Estimate Exposure Point Concentrations
 - 2.2.1 Quantify Chemical Releases
 - 2.2.2 Predicted Environmental Fate and Transport
- 2.3 Compare to Requirements, Standards, and Criteria
 - 2.3.1 Compare to "ARARs":
 - o Maximum Contaminant Levels (MCL) and Maximum Contaminant Level Goals (MCLG)
 - o National Ambient Air Quality Standards (NAAQS)
 - o Federal Ambient Water Quality Criteria
 - o State Environmental Standards
 - 2.3.2 Compare to Other Criteria, Advisories, and Guidances
 - o Proposed MCLs, MCLGs
 - o Drinking Water Health Advisories

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Step 3: Estimation of Chemical Intakes

- 3.1 Calculate Air Intakes
- 3.2 Calculate Ground Water Intakes
- 3.3 Calculate Surface Water Intakes
- 3.4 Calculate Intakes From Other Exposure Pathways
- 3.5 Combine Pathway-Specific Intakes to Yield Total Oral and Total Inhalation Intakes

Step 4: Toxicity Assessment

Step 5: Risk Characterization

- 5.1 Noncarcinogenic Effects
- 5.2 Potential Carcinogenic Effects
- 5.3 Uncertainties

B. Environmental Assessment (Ref. No. 4)

Step 1: Identify Ecological Receptors

- 1.1 Terrestrial Biota
- 1.2 Aquatic Biota
- 1.3 Endangered Species

Step 2: Characterize Chemical Release and Exposure Point Concentrations

- 2.1 Assess Indicator Chemical Concentrations at Contamination Source
 - Soil
 - Air
 - Surface Water
- 2.2 Identify Exposure Pathways
 - Characterize Potential Exposure Points
 - Integrate Release Sources, Environmental Transport Media, Exposure Points, and Exposure Routes into Exposure Pathways
- 2.3 Estimate Exposure Point Concentrations
 - Quantify Chemical Releases
 - Evaluate Environmental Fate and Transport
 - Biodegradation of Indicator Chemicals
 - Bioaccumulation Potential
 - Predict Estimated Environmental Concentrations (EEC) at Points of Potential Receptor Contact

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Step 3: Assess Toxicity

- 3.1 Terrestrial Biota
- 3.2 Aquatic Biota
- 3.3 Endangered Species

Step 4: Characterize Biological Risk

- 4.1 Potential Chronic Health Effects
- 4.2 Potential Acute Health Effects

VIII. FEASIBILITY STUDY (Ref. No. 2, Ch. 4-7)

The Feasibility Study shall involve the following phases:

1. FEASIBILITY STUDY (FS) PHASE I: Development of Alternatives

The objective of this phase is to develop alternatives that protect human health and the environment and cover a range of appropriate waste management options. Alternatives will be developed concurrently with the RI site characterizations, with the results of one influencing the other in an iterative fashion.

This phase of alternative development will include the following activities:

- o Establishment of Remedial Response Objectives based on the Baseline Public Health Evaluation and ARARs identification. Remedial response objectives should be developed to specify contaminants and media of interest, exposure pathways, and remediation goals that permit a range of treatment and containment alternatives to be developed.
- o Identifying Volumes and Areas of Media to Which Treatment or Containment Action may be Applied
- o Developing Response Actions for each Medium
- o Identifying Potential Treatment Technologies.

The identified general response actions and associated treatment technologies are screened based on:

- o Public Health and Environmental Impact
- o Effectiveness
- o Implementability
- o Cost

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The technologies and process options passing initial screening are assembled into alternatives. (These alternatives may address site-wide contamination or a specific operable unit).

2. FS PHASE II: Screening of Alternatives

For those situations in which numerous waste management options may be appropriate, the assembled alternatives will be refined and screened based on their effectiveness, implementability, and cost. The initial screening of alternatives will address:

- o Environmental and Public Health Protection
- o Technical Feasibility
- o Cost

Alternatives may be further refined based on the post-screening investigations. The following task will be included in the post-screening investigation:

- o Determination of Data Requirements
- o Additional Site Characterization
- o Treatability Testing
- o Bench Versus Pilot Scale Testing
- o Application of Results

3. FS PHASE III: Detailed Analysis of Remaining Alternatives

Information from the Baseline Risk Assessment will be used as input to the analysis and refinement of remaining remedial alternatives. The analysis and refinement process involves the following tasks: (Ref. No. 3, Ch. 8, p. 106)

- o Re-evaluate Indicator Chemicals
- o Determine Potential Exposure Pathways
- o Determine Target Concentrations at Human Exposure Points
- o Estimate Target Release Rates
- o Assess Chronic Risk for Noncarcinogens
- o Assess Potential Short-Term Health Effects of Each of the Remedial Alternatives

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The alternatives remaining after Phase II screening will be evaluated in detail based on the following criteria:

- o Health Information/Environmental Effects
- o Technical Aspects of the Remedial Alternatives
- o Evaluation Criteria for Detail Analysis of Alternatives
 - Short-term Effectiveness
 - Long-term Effectiveness and Permanence
 - Reduction of Toxicity, Mobility, and Volume
 - Implementability
 - Cost
 - Compliance with ARARs
 - Overall Protection of Human Health and the Environment
 - State Acceptance
 - Community Acceptance

Based on the results of the screening of alternatives, a remedial action alternative will be recommended.

4. FEASIBILITY STUDY REPORT (Primary Submittal No. 5, Ref. No. 2, p. 7-38 through 7-39 for format and Ref. No. 1)

The FS report shall summarize the results of the FS, including reduction, presentation and interpretation of all data and information generated and/or compiled during the feasibility study. The expected format for the FS report is:

EXECUTIVE SUMMARY

1. INTRODUCTION

- 1.1 Purpose and Organization of Report
- 1.2 Background Information (Summarized from RI Report)
 - 1.2.1 Site Description
 - 1.2.2 Site History
 - 1.2.3 Nature and Extent of Contamination
 - 1.2.4 Contaminant Fate and Transport
 - 1.2.5 Baseline Risk Assessment

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2. IDENTIFICATION AND SCREENING OF TECHNOLOGIES

2.1 Introduction

2.2 Remedial Action Objectives --

Presents the development of remedial action objectives for each medium of interest (i.e., ground water, soil, surface water, air, etc.). For each medium, the following will be discussed:

- Contaminants of interest
- Allowable exposure based on risk assessment
- Allowable exposure based on ARARs
- Development of remedial action objectives

2.3 General Response Actions --

For each medium of interest, describes the estimation of areas or volumes to which treatment, containment, or exposure technologies may be applied.

2.4 Identification and Screening of Technology Types and Process Options -- For each medium of interest, describes:

- 2.4.1 Identification and Screening of Technologies
- 2.4.2 Evaluation of Technologies and Selection of Representative Technologies
- 2.4.3 Need for Treatability Studies

3. DEVELOPMENT AND SCREENING OF ALTERNATIVES

3.1 Development of Alternatives --

Describes rationale for combination of technologies/media into alternatives. Note: This discussion may be by medium, by operable unit, or for the site as a whole.

3.2 Screening of Alternatives

3.2.1 Introduction

3.2.2 Alternative # (The following elements will be discussed for each alternative):

- Description
- Evaluation
- Effectiveness
- Implementability
- Cost

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- 3.2.3 Alternative 2
- 3.2.# Summary of Screening

4. DETAILED ANALYSIS OF ALTERNATIVES

4.1 Introduction

4.2 Alternative Analysis

4.2.1 Alternative # (The following elements will be considered in the description and assessment of each alternative):

4.2.1.1 Description

4.2.1.2 Assessment

- Short-Term Effectiveness
- Long-Term Effectiveness and Permanence
- Reduction of Mobility, Toxicity, and Volume
- Implementability
- Cost
- Compliance with ARARs
- Overall Protection of Human Health and the Environment
- State Acceptance
- Community Acceptance

4.2.2 Alternative 2

4.2.# Summary of Alternatives Analysis

4.3 Comparison Among Alternatives

4.3.1 Short-Term Effectiveness

4.3.2 Long-Term Effectiveness and Permanence

4.3.3 Reduction of Toxicity, Mobility, and Volume

4.3.4 Implementability

4.3.5 Cost

4.3.6 Compliance with ARARs

4.3.7 Overall Protection of Human Health and the Environment

4.3.8 State Acceptance

4.3.9 Community Acceptance

4.3.10 Summary of comparisons among alternatives

4.4 Summary of Detailed Analysis

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Bibliography
Appendices

Listing of State ARARs

Treatability Study Results

The RI and FS final reports will be incorporated into the Administrative Record. Following agency review of the FS report, the SAAD will generate a Proposed Plan for Remedial Action. The Proposed Plan will be made available for public review and comment. Following the public comment period, a Responsiveness Summary will be prepared for the public comment period. Following incorporation of appropriate agency and public comments in the Proposed Plan, the Record of Decision will be prepared. After the Record of Decision is complete, a Remedial Design (preliminary design), Remedial Construction (final design), and Remedial Action Workplan will be prepared. Throughout the RI/FS process, monthly status reports will be prepared that document the progress of RI/FS related activities.

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REFERENCES

1. Appendices G and H of DOHS Remedial Action Order and Enforceable Agreement Policies, Procedures (OPP # 86-20).
2. EPA RI/FS Guidance, March 1988.
3. Superfund Public Health Evaluation Manual, OSWER Directive 9285.4-1, January 1986.
4. Superfund Exposure Assessment Manual, OSWER 9285.5-1, April 1988.
5. Community Relations in Superfund; OSWER Directive 9230.0-3B, March 1988.
6. A Guide to Developing Superfund Proposed Plans.
7. A Guide to Developing Superfund Records of Decision.
8. RCRA Facility Assessment Guidance, October 1986.
9. Data Quality Objectives for Remedial Response Activities, OSWER Directive 9335.0-7B, March 1987 (vol. 1 & 2)
10. Department of Health Services, Site Safety Plan Guidance Document, August 1988
11. Guidance for Coordinating ATSDR Health Assessment Activities with the Superfund Remedial Process, OSWER Directive 9285-4-02, March 11, 1987
12. ATSDR Policy on Health Assessment/ATSDR Memo, April 16, 1987
13. CERCLA Compliance with Other Laws Manual, May 1988
14. Guidelines and Specifications for Preparing QAPP, QAMS - 005/80, December 29, 1980
15. QC/QA Requirements for Reviewing the Data Generated by PRP

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16. Preparation of a U.S. EPA Region 9 Sample Plan/EPA Guidance
17. Preparation of a PRP Sample Plan for EPA Region 9/EPA Guidance
18. Superfund Remedial Design and Remedial Action Guidance, OSWER Directive 9355.0-4A, June 1986

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ATTACHMENT FOUR (4)

TOXICITY OF SUBSTANCES FOUND
AT SACRAMENTO ARMY DEPOT

Ethyl Benzene

Acute - skin, nose, throat, eye irritant, weakness,
dizziness, Central Nervous System (CNS) depression
Chronic - skin irritant, chronic dermatitis

Tetrachloroethene

Acute - CNS effects, headache, nausea, drowsiness,
dizziness, eye, nose, throat irritant, liver damage
Chronic - dermatitis, liver and kidney damage

Trans-1,2 dichloroethene

Acute - dizziness, drowsiness and unconsciousness, CNS
depression
Chronic - lung irritant, unconsciousness

Trichlorethene (TCE)

Acute - skin and eye irritant, Central Nervous System (CNS)
depression, headache, nausea, vomiting
Chronic - liver and kidney damage, paresthesias

Xylene

Acute - nose, eye, throat irritant, dizziness, drowsiness,
and unconsciousness, nausea, vomiting, kidney and
liver damage
Chronic - eye damage, dermatitis

4-4' DDT (Dichlorodiphenyltrichloroethane)

Acute - CNS effects, dizziness, nausea, abdominal pain,
vomiting, progressing to seizures and coma
Chronic - weight and appetite loss, microscopic liver and
kidney changes, stored in fat tissue, suspect
carcinogen

Cadmium

Acute - irritant to respiratory tract progressing to
pulmonary edema
Chronic - anosmia, stains on teeth, emphysema, kidney
damage, anemia, animal carcinogen

Chromium

Acute - skin irritation
Chronic - fibrosis of lungs, cancer of lungs, nasal cavity,
paranasal sinus

Lead

Acute - fatigue, headache, aching muscles and bones,
gastrointestinal disturbances, sleep disturbances,
abdominal pain, decreased appetite
Chronic - reproductive system and fetotoxicity, lead colic,
anemia, pallor, CNS effects, peripheral
neuropathy, lead line on gums, kidney damage

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ATTACHMENT 5

PAYMENT PROCEDURE FOR STATE TECHNICAL ASSISTANCE EXPENSES

A5. 1.

The Army, pursuant to its authority under 10 U.S.C. 2701 (d), agrees to request funding from Congress and to reimburse DHS, subject to the conditions and limitations set forth in this attachment, for specified services provided to SAAD pursuant to paragraph 2 of this section.

A5. 2 State Support Services.

Services provided under this section include the following types of assistance for response actions at SAAD:

a. Timely technical review and substantive comment on reports or studies which SAAD prepares in support of its response actions and submits to the State.

b. Identification and explanation of unique state requirements applicable to military installations in performing response actions, especially state applicable or relevant and appropriate requirements (ARARs).

c. Field inspections to ensure cleanup activities are implemented in accordance with agreed upon conditions between the State and SAAD.

d. Support and assistance to SAAD in the conduct of public participation activities in accordance with Federal and State requirements for public involvement.

e. Participation in the review and comment functions of SAAD's Technical Review Committee.

f. Other services specified in this Agreement, or as agreed to by SAAD and DHS.

A5. 3. Submission of Invoices.

Within 30 days after the end of each quarter, DHS shall submit to the Army an invoice for costs incurred related to paragraph A5.2. All costs submitted by DHS shall be reasonable, allocable to this Agreement, and not violative of Federal or State statutes or regulations. Travel expenses claimed by DHS shall not exceed those expenses adopted by the State Board of Control for reimbursement of travel expenses.

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b. The SAAD Project Manager and the DHS Project Manager shall be the primary points of contact to coordinate resolution of disputes occurring pursuant to Section 42 of this Agreement, and attachment 5.

c. If SAAD's Project Manager and DHS' Project Manager are unable to agree, the matter shall be referred to the installation commander or his designated representative and the chief of the designated program office of the DHS as soon as practicable, but in any event, within five (5) working days.

d. Should they be unable to agree within ten (10) working days the matter shall be elevated to the Chief Deputy Director, Toxic Substances Control Division, State Department of Health Services and the DESOH, ASA (I&L).

e. It is the intention of the Army and DHS that all disputes shall be resolved in this manner. The use of alternative dispute resolution is encouraged. In the event the Chief Deputy, Toxic Substance Control Division, State Department of Health Services and the DESOH, ASA (I&L) are unable to resolve a dispute, DHS retains all of its legal and equitable remedies to recover its costs.

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A5. 4. Funding.

The Army agrees to submit these cost as part of its request of authorization and appropriations in accordance with Section 38 of this Agreement. All payments of costs are subject to receipt of appropriations. The Army agrees to advise the State of the status of available funds as soon as the Appropriations Bill is signed by the President and final program allocations are made by DoD to the Army.

A5. 5. Maintenance of Accounting Records and Right of Audit.

DHS shall maintain adequate accounting records sufficient to identify all expenses related to this Agreement. DHS agrees to maintain these financial records for a period of five years from the termination date of this Agreement as specified in Section 39 of the Agreement. DHS agrees to provide SAAD or its designated representative reasonable access to all financial records for the purpose of audit for a period of five years from the termination date of this Agreement, as specified in Section 39 of the Agreement.

A5. 6. Submission and Update of Technical Assistance Expense Projections.

a. Within 30 days of the receipt of SAAD's project completion dates as specified in Section 16 of this Agreement, DHS will provide SAAD with cost estimates for technical assistance for the duration of this Agreement.

b. DHS will be responsible for submitting updated expense estimates for technical assistance for the duration of the Agreement on a semi-annual basis. SAAD will provide DHS with 30 days notification of its need for the latest projected expenses as required for SAAD's submission of the 1383 funding report. Expense estimates shall be subject to review by SAAD or its designated representative.

A5. 7. Dispute Resolution.

a. In the event that SAAD believes that costs set forth in the accounting information, described in paragraph A5.3, were not within the scope of services set forth in paragraph A5.2, or not reasonable, allocable to this Agreement, or are violative of this Agreement as outlined in paragraph A5.3, or if the Army and DHS have any other dispute concerning cost reimbursement, including any disagreement over a cap of future technical assistance expenses under Section 42 of this Agreement, SAAD may challenge the amount to be paid to DHS. This shall occur through the Dispute Resolution process described in Paragraph A5.7.

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